

# **EXHIBIT 9**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF RHODE ISLAND**

SUMMER INFANT (USA), INC.,	)	
	)	C.A. No. 17-cv-549
Plaintiff/Counter-Defendant,	)	
v.	)	District Judge Mary S. McElroy
	)	
TOMY INTERNATIONAL, INC.,	)	Magistrate Judge Patricia A. Sullivan
	)	
Defendant/Counterclaimant.	)	

## EXPERT REPORT OF CHARLES L. MAURO

## I. Background and Experience

1. I, Charles Mauro, have been retained by TOMY International, Inc. ("TOMY") to offer my opinions regarding design, scientific, and technical certain issues discussed below related to the captioned matter.

2. I am the president and founder of Mauro Usability Science, a consulting firm, specializing in usability science, formal user-centered product design, high-performance user interface design and design IP rights, including for litigation and dispute resolution matters. I am certified by the Board of Certification in Professional Ergonomics in human factors engineering. I have a bachelor of science degree in Industrial Design from Los Angeles Art Center College of Design and a Masters degree in ergonomics and biomechanics from New York University. My background and qualifications are set forth in my curriculum vitae attached as Exhibit A.

## II. Scope of Retention

3. I understand that the plaintiff in this action, Summer Infant USA, Inc. ("Summer Infant") commenced this action by filing a complaint for declaratory action of patent non-infringement related to U.S. Patent 6,578,209 ("209 Patent") and Summer Infant's offering for sale, sales, marketing, and manufacturing of an infant bath tub referred to as the Comfy Clean

Deluxe tub ("Accused Tub"). TOMY counterclaimed for willful patent infringement of the '209 Patent.

4. I have been asked for purposes of this report to provide my opinions on design, technical, and scientific related to issues on which TOMY bears the burden of proof in this action, including those related to questions of infringement of the '209 Patent by the Accused Tub, patent coverage by the '209 Patent for TOMY's commercial embodiment referred to as the Sure Comfort Deluxe tub ("TOMY Tub"), and alleged alternatives to the patented tub.

5. At this point in time, I have not been requested to provide opinions regarding design, technical, or scientific issues on which Summer Infant bears the burden of proof. I reserve the right to do so.

6. I am being compensated at the rate of \$650 for my time. My compensation is not dependent upon the outcome of this matter of the opinions stated herein.

### **III. Information Considered**

7. The materials that I considered in forming my opinions are listed in Exhibit B.

8. My opinions are based on my skills, knowledge, experience, education and training, as well as information gathered by and/or provided to me as of the date of this report. It is usual and customary for experts to consider and/or rely upon sources of information such as those identified above, and in Exhibit B in forming such opinions.

9. While I have substantial experience with patent cases, I am not an attorney. As such, my understanding of the relevant law, as set forth herein, was provided by TOMY's counsel. Regarding the meanings for certain claim terms and phrases in the '209 Patent, I have reviewed the claim constructions for the '209 Patent adopted by the district court judge in this action in an order dated March 31, 2020. I have also reviewed the Report and Recommendation

of the Magistrate Judge dated October 24, 2019, and particularly, the claim constructions on page 21 of the Report and Recommendation adopted by the district court, and which I understand to be the law of the case here.

10. References to documents and testimony herein and in the exhibits are meant to provide examples of supporting information, but are not intended to be comprehensive or exhaustive lists of all known support. The information in this report is based upon discovery to date and the information that is currently available.

11. To the extent that any additional information is produced, it may become necessary to incorporate such additional information into my report, or otherwise amend or supplement my report. I will be prepared to update my opinions if additional information becomes available that impacts my opinions and bases thereof.

#### **IV. Background**

12. TOMY is a Delaware corporation with various locations, including in Oak Brook, Illinois, Dyersville, Indiana, and Canton, Massachusetts. TOMY designs, manufactures, distributes, and sells a variety of consumer products to retail and wholesale customers, including health, safety, and care products and toys for infants and children. Based on my review of the TOMY website ([us.tomy.com](https://us.tomy.com)) I understand that sells its products under different brands, including but not limited to Lamaze, The First Years, TOMY, and Boon.

13. Summer Infant is a Delaware corporation with its principal place of business in Woonsocket, Rhode Island. Like TOMY, Summer Infant designs, markets, and distributes health, safety and wellness products for children, which are sold principally to U.S. retailers.

14. TOMY and Summer Infant are direct competitors for supplying at least infant bath tubs to retailers, including Walmart.

**V. The '209 Patent**

15. The '209 Patent was issued on June 17, 2003, and was filed as application Serial No. 09/975,924 ('924 Application) on October 12, 2001. The '209 Patent lists The First Years Inc. as the assignee of the patent. It is my understanding that TOMY became the owner of the '209 Patent through company mergers, acquisitions, and corporate name changes.

16. The '209 Patent includes 31 claims. Claims 1, 22, 23, and 30 are independent claims. Claims 1-3, 5, 7, 11, 17, 18, 21, and 30 are being asserted in this case. Each of these claims is reproduced below:

Claim 1. A tub for bathing children, the tub comprising a molded plastic body having an upper rim and defining a bathing basin sized for bathing a young child and having a bottom surface and opposing side walls forming opposite ends of the basin,

a first of the opposing side walls extending at a first incline angle with respect to the rim, and a second, opposite one of the opposing side walls extending at a second incline angle with respect to the rim, the first and second inclined side walls forming first and second back rests for children seated in the tub in different orientations;

the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat;

wherein the body has a nominal thickness and upper and lower surfaces having matching shape across an overall extent of the tub so as to enable the tub to nest within an identical tub with a nesting space differential of less than about two inches (five centimeters).

Claim 2. The tub of claim 1 wherein the cavity includes two side troughs extending along either side of the inclined seats and formed within wales defining resting points positioned to support the tub on a horizontal surface.

Claim 3. The tub of claim 2 wherein the wales form laterally aligned sink divider notches at one end of the cavity, and laterally aligned ledges at the other end of the cavity, the notches sized and positioned to receive an upper edge of a divider of a double sink when the tub is placed over one basin of the double sink with the ledges resting on one outer edge of the sink.

Claim 5. The tub of claim 2 wherein the wales each have longitudinal ends disposed behind the back rests and positioned to abut opposite walls of a single sink with the tub rim resting upon an upper edge of the sink and the tub disposed within the sink.

Claim 7. The tub of claim 2 wherein the side troughs extend below and along either side of the bottom surface apex.

Claim 8. The tub of claim 1 wherein the tub rim defines, behind one of the back rests, a separate water basin.

Claim 11. The tub of claim 1 defining a drain hole in a bottom of the basin, and further comprising a removable drain plug.

Claim 17. The tub of claim 15 wherein the seating surface associated with the first inclined wall is disposed generally horizontally with the tub resting upright on a horizontal surface.

Claim 18. The tub of claim 1 wherein the seating surfaces are joined by a central bottom surface portion that rises from the distal edge of one of the seating surfaces to the distal edge of the other of the seating surfaces.

Claim 21. The tub of claim 1 nestable within an identical tub with a nesting space differential of less than about 1.75 inches (4.5 centimeters).

Claim 30. A tub for bathing children, the tub comprising a molded plastic body having an upper rim and defining a bathing basin sized for bathing a young child and having a bottom surface and opposing side walls forming opposite ends of the basin, wherein the body has a nominal thickness and upper and lower surfaces having matching shape across an overall extent of the tub so as to enable the tub to nest within an identical tub with a nesting space differential of less than about two inches (five centimeters);

a first of the opposing side walls extending at a first incline angle with respect to the rim, and a second, opposite one of the opposing side walls extending at a second incline angle with respect to the rim, the first and second inclined side walls forming first and second back rests for children seated in the tub in different orientations;

the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat;

wherein the cavity includes two side troughs extending along either side of the inclined seats and formed within wales defining resting points positioned to support the tub on a horizontal surface, the wales forming laterally aligned sink divider notches at one end of the cavity, and laterally aligned ledges at the other end of the cavity, the notches sized and positioned to receive an upper edge of a divider of a double sink when

the tub is placed over one basin of the double sink with the ledges resting on one outer edge of the sink.

17. Based on my review of the prosecution history for the '209 Patent, I note that claim 1 and the relevant claims depending therefrom were allowed without amendment or argument based on the originally filed claims in the patent application. I further note that claim 30 was added during prosecution, and was allowed without amendment or argument.

## **VI. Summary of Opinions**

18. I have inspected the Accused Tub and compared it with aforementioned claims of the '209 Patent as construed by the court. It is my opinion that each and every claim limitation of at least claims 1-3, 5, 7, 11, 17, 18, 21, and 30 of the '209 Patent are present in the Accused Tub, and therefore, Summer Infant's sales, offers for sale, and manufacturing of the Accused Tub is a literal infringement of each of the listed claims of the '209 Patent.

19. While it is my opinion that the Accused Tub literally includes every limitation of at least the aforementioned claims of the '209 Patent, I reserve the right to supplement my opinion in view of Summer Infant's technical expert's infringement opinions, if any, to the extent that he identifies any claim terms as not being literally met.

20. I have inspected the TOMY Tub and compared it with claims of the '209 Patent as construed by the court. It is my opinion that each and every claimed limitation of at least one claim of the '209 Patent is present in the TOMY Tub, and therefore, the TOMY Tub is covered by the '209 Patent.

21. I have inspected samples of the infant tubs identified by Summer Infant in its responses to interrogatories that it alleges were acceptable non-infringing alternatives to the patented tub during the infringement period. It is my opinion that none of the identified tubs were acceptable, non-infringing alternatives to the patented tub. I reserve the right to supplement

my opinions to the extent that any other infant tubs are contended to be acceptable non-infringing alternatives.

## **VII. Basis and Reasoning**

22. I understand that in order for a product to be covered by a patent claim that the product must include features that meet every claim limitation.

23. I further understand that during the claim construction proceedings, the parties identified certain claim terms as requiring construction by the court, and that the following claim terms were given the following constructions, either by way of agreement between the parties, or by order of the court.

24. The phrase "molded plastic body" was construed by the court to mean "one-piece plastic body formed from a mold."

25. The phrase "distal edges joined at a bottom surface apex" was construed by the court to mean "edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces."

26. The term "wales" was found by the court to be self-defined by the other language in the claims.

27. The phrase "nesting space differential of less than about 2 inches (5 centimeters)" was proposed by TOMY to mean "the difference in height between  $n$  tubs and  $n+1$  tubs is less than approximately two inches (five centimeters)," and proposed by Summer Infant to mean "the difference in height between  $n$  tubs and  $n+1$  tubs is less than about two inches (five centimeters)." The Magistrate Judge recognized that the only difference in the proposed constructions related to the word "about," which TOMY proposed meant "approximately." The



Magistrate Judge stated in the Report and Recommendation that the parties agreed that "about" and "approximately" were synonymous. I agree that this is the ordinary meaning of the term "about." Therefore I have interpreted "about" as synonymous with "approximately," and have applied the definition for nesting space differential proposed by TOMY and Summer Infant.

28. I note that in claim 21 of the '209 Patent it includes the claim limitation "nesting space differential of less than about 1.75 inches (4.5 centimeters)." Similar to the phrase "nesting space differential of less than about 2 inches (5 centimeters)," I understand that the word "about" is synonymous with "approximately", and therefore, have interpreted claim 21 in that manner.

29. For all other claim terms not addressed by the parties or the court, I have adopted the common ordinary meaning to a person of ordinary skill in the art for such claim terms.

30. In my opinion a person of ordinary skill in the art would have a degree in industrial design or the equivalent, 2 to 3 years of working experience, injection molding experience, and experience in human factors engineering pertaining to infants and young children.

### **VIII. Literal Infringement**

31. It is my understanding that in order for there to be literal infringement, the accused product must be proven to meet all the limitations of the asserted claims as those claims have been construed by the court.

32. My literal infringement analysis for the previously identified claims is provided in the claim charts attached as Exhibit C. As shown in the claim charts, I have included the court's claim construction in the claim language immediately following the term or phrase construed. I have also applied the claim constructions discussed above.

33. In addition to my analysis in the claim charts, I offer some additional observations.

34. It is my understanding that during discovery TOMY served Summer Infant with interrogatories and that the interrogatories requested that Summer Infant identify any contentions that Summer Infant had for why the Accused Tub did not infringe any claim of the '209 Patent.

35. I have reviewed Summer Infant's interrogatory responses. Based on Summer Infant's interrogatory responses, it contends that the Accused Tub: lacks "seating surfaces ... extending from respective back rest to distal edges" because "the two 'seating surfaces' do not meet at an edge, but are instead a single, essentially planar surface with a convex protrusion in the middle of the essentially planar surface. Because they are not distinct surfaces, neither terminates in an 'edge.'" Summer Infant seems to suggest that in order for there to be an edge to the seating surface that it must terminate, and then the edges of the seating surfaces must be joined together. I conclude that this contention runs afoul of the court's claim construction specifying that the overall tub is a one-piece piece of plastic formed from a mold, as well as the teachings of the '209 Patent. It is my further opinion that Summer Infant's argument is nonsensical in that Summer Infant admits that the Accused Tub has two seating surfaces, but then says it is a single planar surface.

36. Summer Infant further contends in its interrogatory response that "the two seating surfaces of the Accused Product are not 'joined at a bottom surface apex' because the two seating surfaces of the Accused Product are not 'joined' at that location. It is my opinion that Summer Infant's contention is a meaningless tautology in that Summer Infant merely contends that the two seating surfaces, which it admits are present in the Accused Tub, are not joined at the bottom surface because they are not joined at that location. My inspection of the Accused Tub shows

that there are two seating surfaces, and that there is no opening in the middle of the Accused Tub, and therefore, those seating surfaces must be joined together in some manner, and are in fact joined together at the area of a high point of the bottom surface of the tub as described in the claim charts.

37. Summer Infant also contends that the two seating surfaces, which it admits are present in the Accused Tub, are not of differing inclinations. I disagree. Pursuant to the court's claim construction of "distal edges" – edges of the seating surfaces situated farthest away from their respective back rests – the surfaces in the Accused Tub that are, in my opinion, the "seating surfaces" are clearly of different inclinations.

38. Summer Infant's remaining contention for why the Accused Tub does not meet the limitations of the '209 Patent claims is that the "nesting space" limitation states that it is less than an approximate figure, and therefore the limitation is not met by the Accused Tub. There is no logical basis to Summer Infant's contention. The '209 Patent explains in the specification that the claimed nesting differential is critical to one aspect of the invention, which is to minimize the space occupied by molded plastic tubs for more efficient transportation and storage (col. 1, ll. 52-67). Thus, while the claim speaks to a nesting space differential that is "less than about 2 inches (5 centimeters)" any nesting differential that is less than 2 inches would meet this claim limitation and accomplish the purpose of the claimed invention. In other words, the word about allows for a differential equal to exactly 2 inches or slightly more than exactly 2 inches. With the Accused Tub, the measured nesting space differentials as indicated in Exhibit D<sup>1</sup> are less than the required 2 inches (5 centimeters) for the claims with that limitation, and are less than the

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<sup>1</sup> Various measurements for different models of tubs were made as part of preparing my report. A table showing these measurements is attached as Exhibit E.

required nesting space differential of 1.75 inches (4.5 centimeters) of claim 21. Therefore, it is my opinion that Accused Tub meets the nesting space differential claim limitation.

39. As discussed in the claim charts, it is my opinion that the Accused Tub literally meets the requirement that the upper and lower surfaces of the tub body have matching shapes across the overall extent of the tub so as to enable the tub to nest within an identical tub with the specified nesting space differential. I note that there are minor differences in shapes of the upper and lower surfaces, but conclude that these do not detract from my conclusion. For example, the lower surface of the wales of the Accused Tub include small projections resembling feet, and ridges around the drain plug, which appear to be to raise the hole slightly for drainage. The lower surface also includes various ribs under the rim, for which there are not corresponding negative spaces in the upper surface. These differences do not change my opinion that the surfaces match across the overall extent of the tub, and therefore literally satisfy the relevant limitation. By including the qualifier "overall" this means that the general shapes match, not that they are exactly the same. I further note that the '209 Patent specification recognizes that the bottom surface of the tubs may include ribs or other discontinuities that are not present on the upper surface. (Col. 5, ll. 62-64; Col. 6, ll. 7-9). This further supports my understanding that minor discontinuities are encompassed by the scope of the subject claim limitation. I further note that Summer Infant did not identify this as a basis for any non-infringement contention.

40. With respect to claim 8, it includes the limitation that the tub rim defines a water basin. Summer Infant has denied in its responses to TOMY's requests for admission that the structure below is a water basin.

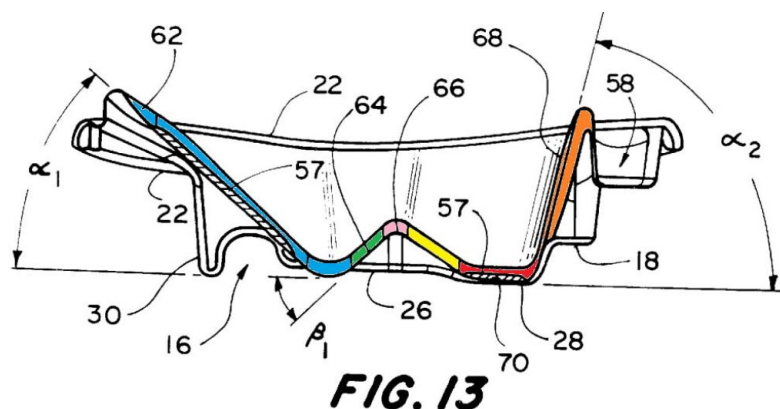


I have inspected this feature. It is a bowl-shaped water tight feature, and therefore would serve as a water basin. I note that Summer Infant describes this as a "parent assist tray". See e.g., [www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub](http://www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub). I have been informed that in determining whether a product claim is infringed, the courts have held that an accused device may be found to infringe if it is reasonably capable of satisfying the claim limitations, even though it may also be capable of non-infringing modes of operation. It is my opinion that for the reasons discussed, the "parent assist tray" is fully capable of operating as a water basin in its normal configuration in that it is a sealed section of the tub body forming a bowl. I further note that the '209 Patent specification state that the basis is something that can accommodate a drinking glass as is used by many parents as a rinsing aid. (Col. 5, ll. 17-20) Accordingly, this limitation is met in my opinion.

41. It should be noted that in the charts discussing how the distal edges of the seating surfaces of the Accused Tub are joined at an area of a high point of the bottom surface the drawings show the area of a high point as a region with the distal edges contacting the region. It should be understood that this is because of limitations in the software used to prepare the drawings, and the drawings are intended to show that the distal edges are joined within the indicated region of the area of a high point. In Analysis 1, the distal edges are connected directly with one another in the indicated area. In Analysis 2, the distal edge of one seating surface is

within the indicated high area, and the other distal edge is connected thereto by the central bottom surface portion which extends into the indicated high area.

42. My basis for Analysis 2 is based on the court's claim construction, as well as the '209 Patent specification. The court's adopted claim construction for the phrase "distal edges joined at a bottom surface apex" is "edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces." The court's claim construction is silent as to whether the joining must be through a direct connection of the seating surface edges or may be by way of a connecting structure. As such, I have considered either possibility. I further note that the preferred embodiment of the invention taught in the '209 Patent specifically teaches connecting the distal edges of the seating surface at the bottom surface apex by a central bottom surface portion. (Col. 2, ll. 64-67). Provided below is an annotated version of Fig. 13 from the '209 Patent. In this drawing there is shown an embodiment where the distal edge of seating surface 64 is joined with seating surface 70 by the yellow portion, which although is unnumbered is clearly the connecting "central bottom surface" portion taught in the '029 Patent. The distal edges of the seating surfaces are joined at the apex 66 by this "central bottom surface." (Col. 2, ll. 64-67; col. 5, ll. 42-55).



43. Alternatively, the yellow portion may be considered, along with the red portion, to be part of the seating surface. This is consistent with my Analysis 1.

44. Some of the photographs included in my claim charts were taken by counsel for TOMY. With respect to the Accused Tub, I have inspected the same tubs as shown in the photographs, and believe the photographs accurately represent the Accused Tub, and are used for sake of easy reference. With regard to the TOMY Tub, I took some of the photographs.

45. In order to measure the height of the tubs individually and stacked, I placed the tub or tubs on a horizontal surface. I then placed a flat planar piece over the high point of the tub or tubs. To the extent that the planar piece was not horizontal I raised the lower end until it was level. As such, the bottom of the planar piece equaled the maximum height of the tub or tubs. I then measured this height.

#### **IX. Infringement Of The Accused Tub Under The Doctrine of Equivalents**

46. I understand that to the extent that a particular claim limitation may be literally missing from an accused product, infringement may still be found under the doctrine of equivalents. I have been advised by TOMY's counsel that a component in an accused product or process may be equivalent to a claim element if the difference between the claimed invention and the accused product was insubstantial or that the accused product or method performs the substantially same function in substantially the same way with substantially the same result as each claim limitation of the patented product. I further have been advised that the doctrine of equivalents may be limited by prosecution history estoppel, which prevents using the doctrine of equivalents to recapture subject matter surrendered from the literal scope of a claim during prosecution. Such prosecution history estoppel can occur either by making a narrowing amendment to the claim or by surrendering claim scope through argument to the patent

examiner. To invoke this second basis, the prosecution history must evince a clear and unmistakable surrender of subject matter. Here there was no claim amendment nor argument made regarding the seating surfaces limitation. Therefore, there should be no prosecution history estoppel.

47. At present, other than Summer Infant's contentions regarding supposedly missing claim limitations discussed above, I am unaware of any other claim limitations that Summer Infant contends are not literally present in the Accused Tub. For the reasons discussed, I disagree with Summer Infant's non-infringement contentions, and these limitations are met literally.

48. As an alternative, I have considered the possibility that certain identified by Summer Infant as being missing from the Accused Tub are actually missing, and whether there would be infringement under the doctrine of equivalents. Should Summer Infant identify any further claim limitations as not being met literally, I reserve my right to supplement my opinions, including without limitations, opinions on the infringement under the doctrine of equivalents.

49. It is my opinion that, to the extent that the Accused Tub does not literally meet the seating surfaces limitation of the '209 patent, this limitation is met under the doctrine of equivalent.

50. As shown in the photograph below, the Accused Tub includes two seating surfaces. One is for a toddler, and the other is for an infant. The toddler seating surface extends from the more upright seat back. The infant seating surface extends from the more inclined seat back.





The seating surface for the infant is shown as the substantially vertical portion for the central protrusion extending upwards from the bottom of the tub. Summer Infant contends that the seating surface for the toddler is essentially limited to the light green pad at the bottom of tub. While, as stated in my claim charts, I disagree with this interpretation, it is my opinion that having structure connecting the lowermost part of the seat to the apex performs the same function, operates in substantially the same way, and achieves substantially the same result. The function of the seating surface is to give the child somewhere to sit, which is met by the flat portion and upwardly curved portion. Indeed the upwardly curved portion is shaped to support part of the weight toddler. Having the seating surfaces meet at the apex is to have a multi-stage tub that provides a structure to allow the child to sit on the particular side of the tub without sliding down. By including the upwardly curved portion, this function is met. The way the Accused Tub is able to be a multi-stage tub is by having two opposite facing seats, which is the same as the patented tub. Lastly, the result, namely, a multi-stage tub with two seats is the same as with the patent. Accordingly, the Accused Tub also infringes under the doctrine of equivalents.

#### **X. TOMY Tub**

51. It is my understanding that TOMY contends that at least one claim the '209 Patent covers the TOMY Tub. For the reasons detailed in my claim charts at Exhibit D, it is my opinion that at least one claim of the '209 Patent covers the TOMY Tub.

52. In addition to my analysis in the claim charts, I offer some additional observations.

53. In the charts discussing how the distal edges of the seating surfaces are joined at an area of a high point of the bottom surface, the drawings show the area of a high point as a region with the distal edges contacting the region. It should be understood that this is because of limitations to the software used to create the drawings, and the distal edges are joined within the region of the area of a high point.

#### **XI. Absence of Acceptable, Non-Infringing Alternatives**

54. I have been informed that TOMY is seeking its lost profits as a measure of monetary damages for Summer Infant's patent infringement. I have further been informed that in order for a patentee to be awarded its lost profits, the patentee must show (1) demand for the patented product; (2) an absence of acceptable, non-infringing substitutes; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of profit that would have been made.

55. I have been asked to offer my opinion on the absence of acceptable, non-infringing substitutes. I have been advised that the relevant time for determining whether there was an acceptable, non-infringing substitute is during the time of infringement, which I understand began in October 2017. I have also taken into account that the time during which Summer Infant made its proposal to Walmart was in April and May 2017.

56. I have reviewed Summer Infant's responses to an interrogatory by TOMY where TOMY requested that Summer Infant identify all tubs that Summer Infant contended was an acceptable, non-infringing substitute to the patented tub. I address each of the identified tubs below.

57. One tub identified by Summer Infant is the Accused Tub. For the reasons discussed, this is not a non-infringing substitute, because it literally infringes the '209 Patent.

58. Another tub identified by Summer Infant is a redesigned version of the Accused Tub ("Redesign Tub"), which added ribs to create additional height for stacked tubs. It is my understanding that this Redesign Tub was not available until October 2018, after the time of infringement, and that the Redesign Tub was substituted for the Accused Tub when it became available. The Redesign Tub cannot be an acceptable, non-infringing substitute for at least the reason that it was not available during the infringement period. Moreover, I have reviewed testimony by Summer Infant's Walmart liaison, Mr. Eric Hauser, regarding an email pertaining to a conversation with the Walmart buyer about a proposed tub. The Walmart buyer stated that the design presented had stacking increments of between 2" and 2.5", and when 3 were stacked, it was over 14". According to the email, the Walmart buyer stated that they could not exceed 13" when stacking 3 tubs. I have measured the Redesign Tub, and the stacking increments are 2.25", and when three are stacked, they have a total height of 14.5", which is more than the 13 inches when stacking 3 tubs that Walmart required, and therefore would not have been acceptable. I recognize that the Redesign Tub has been sold to Walmart since 2018. However, based on testimony of Mr. Fusco and Mr. Hauser (Fusco Dep. at 85; Hauser Dep. at 43), it is my understanding that Walmart was not informed that Summer Infant was providing a product that exceeded the demanded specifications. Given the Walmart buyer's stated demand, based on my experience in product and packaging design, it is my opinion that the Redesign Tub would not have been acceptable if the Walmart buyer had been informed of the change since at the time of infringement, the Walmart buyer stated that when three tubs were stacked that they could not exceed 13" in height, and the Redesign Tub, if it had existed, exceeded that height by a

significant amount. It further is evident that but for the Accused Tub, the Redesign Tub would not have been purchased by Walmart for this same reason.

59. The only other tubs identified by Summer Infant as constituting an acceptable non-infringing alternative to the patented tub are tubs that Summer Infant refers to internally as the "H-12" and "H-13" tubs. Each of these tubs was sold under various names including, "My Fun Tub," "Splish N' Splash Newborn to Toddler Tub," "Under the Sea Tub," "1-2-3 Taking a Bath Tub," "Sparkle 'n' Splash Newborn to Toddler Bath Tub," and "Newborn to Toddler Tub with Toybar." (Fusco Dep. pp. 67- 76).

60. I have inspected samples of the "H-12" and "H-13" tubs and determined that when they are stacked their height exceeds that of the TOMY Tub when stacked. The difference in height between one and two tubs for the H-12 tub was 2.125". The difference in height between one and two tubs for the H-13 tub was 2.5". I have reviewed an email and testimony from Mr. Eric Hauser related to a demand from the Walmart buyer that the Summer Infant tub must fit within the same vertical space as the TOMY Tub. TOMY Deposition Ex. 5. Neither the H-12 nor H-13 tubs satisfy this customer demand. I have measured the H-12 tubs and determined that a stack of 3 would be 13.325 inches. I have measured the H-13 tubs and determined that a stack of 3 would be 13.75 inches. Accordingly, it is my opinion that these tubs were not acceptable substitutes to the patented tub to the relevant buyer, namely Walmart.

61. I have also reviewed the deposition transcripts of Summer Infant's corporate representative, Mr. Fusco, and one of Summer Infant's designers, Mr. Roberts. During these depositions, a document produced by Summer Infant (SI\_0000130-132) was discussed. Mr. Roberts testified that a tub shown on the left hand side of SI\_0000132 was Summer Infant's earlier tubs. Mr. Roberts also testified that channels or troughs were added to the "updated tub"

to address complaints from users regarding weakness in the structural integrity of the "previous tub." (Roberts Dep. at 36-37). I further note that Mr. Roberts testified that he had TOMY's patented tub, which also included troughs, during his design efforts. (Roberts Dep. at 20). I further note that some of the asserted claims, including claims 2, 3, 5, 7, and 30 include the trough limitation. Mr. Fusco confirmed this with his testimony on behalf of Summer Infant that the document showed the distinguishing factor between Summer Infant's earlier tubs and the Accused Tub. (Fusco Dep. at 122). Mr. Fusco also testified that Walmart expressed concern about the integrity of the existing Summer Infant tubs, and asked that this be improved. (Fusco Dep. at 78-79). This testimony further supports my opinion that because of the structural weakness of the earlier tubs, the H12 and H13 tubs were not acceptable alternatives to the patented tub, which included troughs that enhanced the tub's structural integrity. I further conclude based on my design experience that the inclusion of channels or troughs in the TOMY tub or the Accused Tub improved their structural integrity over the configuration of the H12 and H13 tubs, and that the H12 and H13 tubs were not acceptable alternatives to the patented tub for the additional reason that their design failed to meet the demands of the target consumer, Walmart.

## **XII. Conclusion**

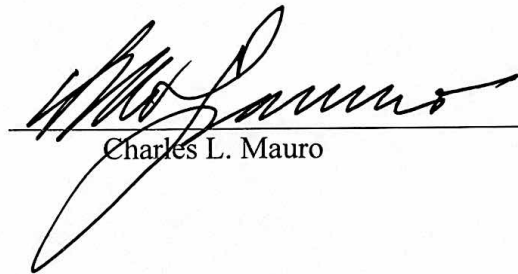
62. It is my opinion that each and every claim limitation of at least claims 1-3, 5, 7, 11, 17, 18, 21, and 30 of the '209 Patent are present in the Accused Tub, and therefore, Summer Infant's sales, offers for sale, and manufacturing of the Accused Tub is a literal infringement of each of the listed claims of the '209 Patent. To the extent that literal infringement is not found, it is my alternative opinion that the aforementioned claims are infringed under the doctrine of equivalents.

63. It is my opinion that at least one claim of the '209 Patent reads on the TOMY Tub.

64. It is my opinion that none of the tubs identified by Summer Infant in its interrogatory responses as constituting an acceptable, non-infringing alternative to the patented tub are such. As such, it is my opinion that at the time of infringement, there were no available, acceptable, non-infringing alternatives to the patented tub.

65. My conclusions are based on information of record. To the extent that additional information is made of record I reserved the right to amend or supplement my opinions.

Date: July 29, 2020



Charles L. Mauro

## **Exhibit A**

### ***Curriculum Vitae* - Charles L. Mauro CHFP**

#### **Background/Qualifications: Charles L. Mauro CHFP**

Over the past 43 years, Mr. Mauro has been retained by leading law firms and corporations as an expert resource on Ergonomics / Human Factors Engineering, product design and development, industrial design, usability engineering, usability testing and consumer decision making.

Mr. Mauro holds a BS in Industrial Design and a Master's Degree in Ergonomics and Human Factors Engineering. His educational background and experience in product design provides clients with a comprehensive ability to deal with complex utility patent, design patent and trade dress matters. Mr. Mauro's approach to development of expert opinions in major cases is based on research principles from the sciences of ergonomics, human factors engineering and decision-making as these disciplines relate to formal legal tests of infringement, validity and obviousness.

In formulating his opinions Mr. Mauro frequently conducts professional research on key issues related to product design and functionality, thus providing an additional level of objectivity to his opinions uncommon for utility patent, design patent and trade dress experts.

Mr. Mauro currently heads the Design Protection Committee for the Industrial Designers Society of America (IDSA) and is active in IP related conferences, meetings and related events. He is the IDSA liaison to the USPTO for Design Day. He also currently manages the IDSA sponsored LinkedIn user group on Design Protection. Mr. Mauro has lectured on intellectual property and product design at the IDSA International Design Conference, USPTO Design Day, Fordham Intellectual Property Law and Policy Conference, MIT Sloan School of Management, Stanford University, University of Pennsylvania and other leading academic institutions. Mr. Mauro has been an invited speaker at the UC Berkeley Law School Seminar for Federal Judges where he spoke on design and utility patent trial procedures and expert testimony to Federal Circuit Judges.

Mr. Mauro is primary coordinating author on several amicus briefs including SCOTUS brief in Apple v. Samsung.

### **Detailed Background and Qualifications**

For the past 43 years, Mr. Mauro has been the president of Mauro Usability Science a consulting firm in New York, N.Y. providing product development research and design solutions to leading U.S. and international corporations and government agencies. He has executed research and development programs for many large corporations including AT&T, Apple, Motorola, Hewlett Packard, General Motors, General Electric, Merck, Goldman Sachs, Nike, Dyson and NASA. Please see a complete list of clients under the Consulting Clients section of this document. He is named inventor on U.S. and foreign utility and design patents and currently has before the PTO patents on various product categories. He is a Certified Human Factors Engineering Professional and obtained such certification from the Board of Certification in Professional Ergonomics (BCPE). His certification number is 1312.

Mr. Mauro earned a Bachelor of Science Degree in Industrial Design from Art Center College of Design in Los Angeles, having been awarded a full scholarship based upon recognized academic excellence. In 1976, he received a Masters Degree in Ergonomics and human factors engineering from New York University (“NYU”). While at NYU, he was a National Institute of Occupational Safety and Health research fellow at the Rusk Institute of Rehabilitation Medicine. Prior to founding his own firm, he was employed by the design firms of Raymond Loewy International and Henry Dreyfus Associates, where he managed large-scale design projects for national and international clients.

Upon being nominated and appointed to the first Presidential Design Awards Committee by the Reagan Administration, Mr. Mauro selected projects that qualified for Presidential Design Awards in the category of product design and established the criteria by which designs were selected. He has been chairman of two American National Standards Institute (“ANSI”) standards committees and has also served on numerous design awards committees, including the Industrial Design Magazine Annual Design Review. He is a member of numerous professional societies including the Industrial Designers



Society of America, the Human Factors and Ergonomics Society and the Usability Professionals Association, Association for Computing Machinery. He has been quoted in leading business publications including The Wall Street Journal, Business Week, Fortune, Science, Scientific American and other publications. He has appeared on national television as an expert in product design.

Mr. Mauro has received leading awards for product design, user interface design and human factors/ergonomics research. He has received the Alexander C. Williams award from the Human Factors Society for outstanding contributions made to a major operational man-machine system. He has also received awards and citations from NASA and the Association of Computing Machines. Mr. Mauro has received the highest award from the Industrial Designers Society of America the life-time personal contribution award.

His experience covers both in-depth working knowledge of formal usability science and detailed product design for a broad range of software and hardware applications spanning commercial and consumer applications. Additionally, his professional background covers new product development and product design methodologies related to overall product development life-cycle optimization, feature and function definition, consumer testing and human factors engineering. He also has a working knowledge of primary issues related to economic modeling of new product features/functions and their implications for high level market timing.

### **Industry experience relevant to this case**

**Formal Product Design and Ergonomic Evaluation Experience and Certifications:** A core issue of this case involves how the products support and interact with the adult and infant from the stand point of ergonomics, human factors engineering and biomechanics. In this regard, I am a formally certified human factors engineering professional (BPCE #1320) and have been retained by leading world-class corporations to conduct formal ergonomic analysis of their products and related systems. The methods and certification experience resident in my background are specifically designed for application to a wide range of

products, including infant support products such as those involved in this matter. Historically, I have worked with data provided by the Consumer Product Safety Commission on child injury and death related to interactions with products in the home environment. I have designed products that specifically reduce known hazards to small children. I possess a detailed working knowledge of infant cognitive, functional and biomechanical limitations as they impact the design of the products in this matter. In a directly related manner, I have studied the biomechanics and ergonomics of infant interactions with support systems for the purpose of identifying relevant design criteria and ergonomic performance variables.

**Formal Graduate Degree in Ergonomics:** I hold a formal graduate degree in ergonomics and biomechanics from New York University, where I studied at the NYU medical school under a full grant from the National Institute of Occupational Safety and Health. My specific graduate studies that are relevant in this case include detailed study of developmental biomechanics and anthropometry of infants and children, including study of methods utilized to assess the design of products for these specific user profiles. I have a detailed understanding of how infants and children develop during the first 2 years of life and how such understanding can be utilized to critically evaluate the safety and design of products for this user group. The methods utilized in the assessment of the use patterns and design configuration of products include a detailed working knowledge of biomechanics, task analysis, risk analysis and product functionality. I have utilized these methods in both the design and analysis of hundreds of products over a 43 year career. The methods listed above have been utilized in the assessment of the products central to this matter and all expert opinions will be based on the application of relevant ergonomic scientific theory and practice as required under guidelines for legal experts.

**Formal Background in Product Design:** I also hold a BS in Industrial Design with distinction from Los Angeles Art Center College of Design. I have more than 43 years of experience in product design, including execution of major design programs for many leading corporations. I am best known for utilizing my combined backgrounds in formal ergonomics research and industrial design. I have focused much of my career on analysis and design of products for complex user populations, including those populations with

known cognitive and functional limitations. Infants are within this population distribution. In 2017, I received the highest life-time achievement from the Industrial Designers Society of America for my work in advanced ergonomic testing methods resulting in the overall advancement of the field of industrial design. Other luminaries who have received this award include Sir Jony Ive of Apple, Raymond Loewy, Henry Dreyfuss...etc. I bring to the legal matter methods and experience widely acknowledged by peers and industry as of the highest professional standards.

**Experience in Single Part Large-Scale Molded Plastic Products:** Experience specifically relevant to design and production of the products in this matter includes my work related to design of high volumn plastic parts utilizing various fabrication and plastic molding processes. This work includes design of a wide range of large molded plastic products for office and home seating utilizing single part molded production processes that require stacking to reduce total volume when stored for either sale or use. These products required an detailed understanding of human anatomy, anthropometry and biomechanics. Included in these assignments was design of single piece plastic seating for small children requiring minimum stacking and storage design criteria.

**Experience in Design of Stackable Products and Packaging:** In addition to the experience noted above I have extensive professional experience in the design of plastic molded containers and related packaging designed to reduce shelf space through optimized stacking configurations as required to minimize shelf space and maximize space utilization. These projects included design of plastic molded parts for cosmetics, food delivery, food service and agricultural products.

### **Consulting Clients**

- ☐ AccuRay Corporation / ABB
- ☐ ADT
- ☐ Amazon.com
- ☐ Amtech
- ☐ AmeriTrade, Inc.
- ☐ Amgen
- ☐ Apple
- ☐ AT&T
- ☐ Atomic Energy of Canada, Ltd.
- ☐ AustismSpeaks.Org
- ☐ Becton Dickinson
- ☐ Centennial Computer Labs
- ☐ Chase Manhattan Bank
- ☐ Champion International Corp.
- ☐ Citibank of New York
- ☐ Citibank Advanced Development
- ☐ Citicorp Development Center
- ☐ Clairol, Inc.
- ☐ Consolidated Edison of New York
- ☐ Cummins Allison Corporation
- ☐ CustomInk.com
- ☐ Department of Defense (DOD)
- ☐ Donaldson, Lufkin & Jenrette
- ☐ DLJDirect.com
- ☐ Dyson
- ☐ Ebasco Services, Inc.
- ☐ eMeta Corporation
- ☐ Estee Lauder

- ☐ Fitch Ratings, Inc.
- ☐ Finanalytica International
- ☐ FUJI North America
- ☐ General Electric
- ☐ General Motors
- ☐ GlobalSpec, Inc.
- ☐ Goldman Sachs & Co.
- ☐ Harvard Management Corporation (Endowment)
- ☐ Haworth
- ☐ Hercules Chemical
- ☐ Herman Miller
- ☐ Hewlett-Packard
- ☐ Howe Furniture Corporation
- ☐ International Harvester
- ☐ International Rescue Committee
- ☐ J.I. Case International
- ☐ Johnson & Johnson
- ☐ K-Tel Corporation
- ☐ Krueger International (KI)
- ☐ Kikkerland, Inc.
- ☐ Knoll International
- ☐ Lancome
- ☐ Longaberger Company
- ☐ Louisiana Power and Light
- ☐ Leukemia and Lymphoma Society
- ☐ March of Dimes
- ☐ Mattel
- ☐ Mag Instrument
- ☐ McKinsey & Company
- ☐ Medtek Corporation

- ☐ Merck
- ☐ Microsoft Corporation
- ☐ Mitel Corporation
- ☐ Motorola, Inc.
- ☐ Museum of Modern Art
- ☐ NASA
- ☐ New York Stock Exchange
- ☐ Nevamar Corporation
- ☐ Niagara Mohawk Power Corporation
- ☐ Nike
- ☐ Nintendo Corporation
- ☐ Northrop Grumman Corporation
- ☐ Office of Naval Research
- ☐ OKI Electronics of America
- ☐ OnMoney.com
- ☐ Pfizer
- ☐ Philips Corporation NV
- ☐ Philips/Canada
- ☐ Pitney Bowes
- ☐ Public Service Electric/Gas of NJ
- ☐ Radiologic Sciences, Inc.
- ☐ Raytheon Data Systems
- ☐ Raytheon Medical Electronics
- ☐ Rose Johnson
- ☐ Samsung Corporation
- ☐ Saxon Paints
- ☐ Sony Corporation
- ☐ Steelcase
- ☐ Trading Technologies, Inc.
- ☐ Teknion
- ☐ Thinking Machines, Inc.

- ☐ TIAA-CREF
- ☐ The Singer Company
- ☐ Technicare Corporation
- ☐ Tesdata Systems Corporation
- ☐ Texas Instruments, Inc.
- ☐ Tiffany & Company
- ☐ Torrington Roller Bearing
- ☐ Tupperware
- ☐ Varian Associates, Inc.
- ☐ Viacom/MTV
- ☐ Weir Minerals
- ☐ Wit Capital/Soundview, Inc.

### **Law Firms**

Over the past 43 years, Mr. Mauro has been retained by the following law firms as an expert witness or expert technical consultant covering a number of complex IP related cases.

- ☐ Allegetti & Witcoff
- ☐ Arnold & Porter
- ☐ Banner & Witcoff Ltd.
- ☐ Amster, Rothstein & Engelberg
- ☐ Clausen, Miller et al.
- ☐ Cushman, Darby & Cushman
- ☐ Davidson & Associates Ltd.
- ☐ Debevoise & Plimpton
- ☐ Dushman, Friedman & Gray
- ☐ Dykema, Gosset, Spencer, Goodnov & Trigg
- ☐ Fish & Richardson, LLP
- ☐ Foster, Swift et al.
- ☐ Gibson, Dunn & Crutcher
- ☐ GreenbergTraurig
- ☐ Harness, Dickey & Pierce
- ☐ Hogan & Hartson
- ☐ Jerome Levy & Associates
- ☐ Jones Day
- ☐ K&L Gates LLP
- ☐ Keck, Mahin & Cate
- ☐ Kenyon & Kenyon
- ☐ Kirkland & Ellis LLP
- ☐ Lyon & Lyon
- ☐ Lieberman, Levy, Baron & Stone
- ☐ McDonnell, Boehnen, Hulbert & Berghoff LLP
- ☐ Mayer, Brown & Platt



- ☐ Mudge, Rose, Guthrie, Alexander, Ferdon
- ☐ Orrick, Herrington & Sutcliffe LLP
- ☐ Perkins & Coie LLP
- ☐ Perz & McGuire
- ☐ Pillsbury, Madison & Sutro LLP
- ☐ Pillsbury Winthrop Shaw Pittman LLP
- ☐ Plunkett, Cooney
- ☐ Polsinelli & Shughart P.C.
- ☐ Sidley Austin LLP
- ☐ Shook, Hardy & Bacon
- ☐ Tory, Tory, DesLauriers & Bennington
- ☐ Willkie Farr & Gallagher
- ☐ WilmerHale
- ☐ Woodcock, Washburn, Kurtz, Mackiewicz & Norris
- ☐ And others

### **Certifications**

Mr. Mauro is a Certified Human Factors Engineering Professional (BCPE), number 1312.

### **Awards and Citations**

#### **2017 IDSA Personal Achievement Award**

The Industrial Designers Society of America (IDSA) has given its highest recognition the 2017 Personal Achievement Award to Charles L. Mauro CHFP, President / Founder of MAURO Usability Science. The award specifically recognizes designers or other individuals whose involvement in, and support of, design has made the honoree a special friend of the profession and a major contributor to industrial design's longevity and importance. Historically the Award has been given to leading design luminaries including Sir Jonathan Ive of Apple, Raymond Loewy, Henry Dreyfuss and others.

#### **2013 Stanley H. Caplan User-Centered Product Design Award**

*Human Factors & Ergonomics Society Product Design Technical Group (HFES PDTG)*

This award, which recognizes outstanding and innovative product designs and the consumer research and design methods used to develop and evaluate them, was presented to Charles L. Mauro for the Polisher's Workstation, which solves critical ergonomic issues encountered by jewelers. The workstation mitigates repetitive motion injuries, improves worker productivity and efficiency, increases polisher career longevity, and reduces training time required for new operators.

#### **Alexander C. Williams Award**

*Human Factors and Ergonomics Society (USA)*

This citation was presented to Charles L. Mauro (Founder and President) for "Outstanding contributions to a major, operational, man-machine system". The criteria for this citation include objective verification of usability performance improvements by independent testing.

### **ACM Interactions Interface Award**

*Association of Computing Machines (ACM)*

Charles L. Mauro cited for outstanding example of the application of user-centered design principles in the development and production of a major operational commercial user interface. This award represented groundbreaking work on hand-held user interfaces and related interaction models.

### **NASA Outstanding Service Award**

*National Aeronautics and Space Administration*

This citation was awarded to Charles L. Mauro for exceptional contributions made in the human factors engineering research and design of major components for the Space Shuttle operations control center following the Challenger tragedy.

### **Emmy Award**

*National Academy of Television Arts and Sciences to MTV Virtual Worlds*

This citation was awarded to the MTV Virtual Worlds Development Team for: "outstanding achievement in advanced media technology for creation of nontraditional programs or platforms." Charles L. Mauro participated as the primary user experience research and optimization consultant providing extensive in-world user engagement research in support of the development of this groundbreaking virtual world franchise (Virtual Laguna Beach).

### **Product Design and Research Experience**

Over the past 43 years Mr. Mauro has executed hundreds of complex usability and user interface optimization projects in the following general categories. The following is a partial list.

- ☐ Aerospace vehicles and support equipment
- ☐ Agricultural equipment
- ☐ Aviation instrumentation
- ☐ Banking and securities
- ☐ Commercial communications
- ☐ Commercial interiors
- ☐ Complex text search and databases
- ☐ Complex cell phones and PDA
- ☐ Computer software for inexperienced users
- ☐ Consumer appliances
- ☐ Consumer cameras
- ☐ Consumer communication devices
- ☐ Consumer products and related electronics
- ☐ Consumer product packaging
- ☐ Consumer seating for adults and children
- ☐ Control display enhancement
- ☐ Corporate communication systems (E-Based)
- ☐ Correctional facilities
- ☐ Defense and military systems
- ☐ Direct mail content analysis
- ☐ Energy management systems
- ☐ Exhibit design and sales delivery systems
- ☐ Executive training systems
- ☐ Electronic Kiosks and ATM Machines
- ☐ Fast food systems
- ☐ Fire safety products

- ☐ Games and toys (electronic and traditional)
- ☐ Hand-held products
- ☐ Hazardous materials packaging
- ☐ High technology medical systems
- ☐ Home appliances
- ☐ Infant Support Systems
- ☐ Instruction manuals (online and traditional)
- ☐ Large volume equities trading systems
- ☐ Lighting systems and related products
- ☐ Materials handling equipment
- ☐ Medical products and systems (numerous categories)
- ☐ Office equipment and duplicating devices
- ☐ Open office furniture systems
- ☐ Packaging, labeling, and warnings
- ☐ Personal care products
- ☐ Personal computers (software / hardware)
- ☐ Process control and power generation (nuclear / fossil fuels)
- ☐ Production equipment and processes
- ☐ Public spaces and parks
- ☐ Recreational equipment
- ☐ Retail sales environments (layout v motivations)
- ☐ Sales and marketing presentations
- ☐ Securities trading systems (specialist firm)
- ☐ Securities trading systems (broker)
- ☐ Securities trading systems (booth)
- ☐ Securities trading systems (trade desk)
- ☐ Securities trading systems (hand-held)
- ☐ Securities trading systems (reporter devices)
- ☐ Signage systems (information delivery)
- ☐ Slurry pump design and related work environments
- ☐ Systems furniture/training centers
- ☐ Small business computers (software / hardware)

- ☐ Underwater diving systems
- ☐ Wrist mounted devices (complex multi-function products)
- ☐ Web-based delivery of products and services (wide range of applications)
- ☐ Workstation and workplace optimization

#### **Professional Affiliations**

- ☐ American National Standards Institute
- ☐ American Society of Mechanical Engineers
- ☐ Association for Consumer Research
- ☐ Association for Computing Machinery
- ☐ Environmental Design Research Association
- ☐ Ergonomics Research Society
- ☐ Human Factors and Ergonomics Society
- ☐ Industrial Designers Society of America

#### **Professional Committees**

- ☐ ASME C L Mauro, Chairman, Codes and Standards Subcommittee on Industrial Terminology: Anthropometry
- ☐ ASME C L Mauro, Founder and Co-Chairman, Official
- ☐ Research Committee on Civilian Anthropometry
- ☐ METRO Metropolitan Chapter of HFES
- ☐ HFES Joint Committee on Human Factors Guidelines
- ☐ HFES Consumer Product Technical Interest Group
- ☐ HFES Forensic Human Factors Special Interest Group
- ☐ MOMA Associate Council of the Museum of Modern Art
- ☐ New York Technology Council User Experience Track (NYTECH UX), Founder
- ☐ IDSA Design Protection Section
- ☐ USPTO Design Day Committee
- ☐ USPTO Examiner Afternoon

### **Publications of Charles L. Mauro**

*CMO: Update List to include new publications in print*

Mauro, C. (2020). Medical Device Usability Testing In The Age Of COVID-19. *Med Device Online*.

Mauro, C., & Neagle, D. (2020). Brief Of Amicus Curiae Industrial Designers Society of America, Inc.'s In Support Of The Petition For Rehearing And Rehearing En Banc.

Mauro, C. (2019). 4 Key Usability Considerations For Biopharmaceutical Delivery Device Design. *BioProcess Online*.

Mauro, C., Morley, C., & Dalton, K. (2019). Understanding Costs And Risks For Human Factors Engineering (HFE) Usability Studies – Part 2: Outsourcing HFE Usability Testing. *Med Device Online*.

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Mauro, Charles L. "Usability Science: Tactical and Strategic Cost Justifications in Large Corporate Applications." *Cost-Justifying Usability: An Update for the Internet Age*. San Francisco, CA: Morgan Kaufmann, 2005. 265-296. Print.

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Mauro, C.L. "MauroNewMedia, Design Interface", AXIS 37 Fall 1989

Mauro, C.L. "Lead-time compression through vertical integration", Innovation Spring 1988

Mauro, C L, "Research and Design of Multinational Products", Innovation, Spring 1985

Bowen, H M, Mauro, C L and Oliver, R J, "Application of 'User Merit Index' to Tractor Cab Evaluation and Development"; paper #84-1643, Proc. Am. Soc. Ag. Eng., Winter meeting 1984

Mauro, C L, and Bowen, H M, "The User Merit Index: Evaluating a Product's Design", Innovation, Fall 1982

Mauro Associates, C L, "The ManComputer Interface: A New Priority, ManMachine4, Copyright 1982, C.L. Mauro Associates, Inc. Quarterly Publication

Mauro, C L, "From the Counter to the Courtroom", Metropolis, October 1981

Mauro, C L, "Human Factors Study Crucial Future Office Computers", Brief(reprint), September 1981

Mauro, C L, "Human Factors Study Crucial Future Office Computers", Industrial Design, March/April 1981

Mauro, C L, and Bowen, H M, "Why Human Factors Will Pay-Off in the 1980's: A Review of Futurist Literature and Consumer Trends", Human Factors Society Bulletin (reprint), November 1980

Mauro Associates, C L, "Women in the Workplace: Equality and Equity", WomanMachine 3, Copyright 1980, C L Mauro Associates, Inc. Quarterly Publication

Mauro Associates, C L, "Human Factors Analysis of a Multi-Function Digital Watch", Human Factors Society Annual Meeting Proceedings, 1980

Mauro, C L, and Bowen, H M, "Properly Designed Offices Must Be Worker Support Systems", Brief (reprint), May 1980

Bowen, H M and Mauro, C L, "Product Liability: The Case of the 10 Cent Ring Guard", presented at Human Factors and Industrial Design in Consumer Products Symposium, Tufts University, Medford, Massachusetts, May 1980

Coskuntuna, Semra, and Mauro, C L, "Instruction Manuals: Components of a Product's 'Teaching Package", presented at Human Factors and Industrial Design in Consumer



Products Symposium, Tufts University, Medford, Massachusetts, May 1980

Mauro, C L, "Why Human Factors Engineering Will Pay Off in the 1980s: A Review of the Futurist Literature and Consumer Trends", presented at Human Factors and Industrial Design in Consumer Products Symposium, Tufts University, Medford Massachusetts, May 1980

Mauro Associates, C L, "Product Liability: For the Plaintiff and for the Defense, ManMachine 2, Copyright 1980, C L Mauro Associates, Inc. Quarterly Publication

Mauro Associates, C L, "Three Mile Island: A Human Factors Problem", ManMachine 1, Copyright 1979, C L Mauro Associates, Inc. Quarterly Publication

Mauro, C L, and Bowen, H M, "Properly Designed Offices Must Be Worker Support Systems", Industrial Design, September/October 1979

Mauro, C L, "Three Mile Island: A Human Factors Problem", Industrial Design, September/October 1979

Mauro, C L, "How and Where to Find Research Literature", Industrial Design, March/April 1979

Mauro, C L, and Bowen, H M. "Product Liability Claims Forcing Human Factors Emphasis", Contract, September 1978

Mauro, C L, "Designing Against Product Liability Claims", Industrial Design, September/October, 1978

Mauro, C L, "Can Hair Dryers Be Safer? Research Says 'Yes' ", Industrial Design, May/June 1978

Mauro, C L, "How Human Variability Affects Design, Part II", Industrial Design, January/February 1978

Mauro, C L, "Variability of the Physical Human is a Key to Design", Industrial Design, November/December 1977

Mauro, C L, "Abstract Models Improve the Product-User Interface", Industrial Design, September/October 1977

Mauro, C L, "Advances in Application of User Data to Product Design", Industrial Design, July/August 1977

**Recent Testimony by Charles L. Mauro**

*Diamond Foods, Inc., v. Hottrix, LLC.* Case No. 14-cv-03162-BLF in the United States District Court of California, San Jose Division. (Expert Report and deposition)

*Slot Speaker Technologies, Inc. v. Apple, Inc.* Case No. 4:13-cv-01161-HSG in the United States District Court of California, Oakland Division.

*Nike, Inc. v. Skechers USA Case 3:16-cv-00007*, United States District Court for the District of Oregon, Portland Division. (Case consulting)

*Apple v. Samsung USPTO Re Reexam of US Patent D618, 677 Control Number 90/012,884.* (Declarations and expert report and testimony)

*Apple v. Samsung USPTO Re Reexam of US Patent D618,678 Control Number 90/012,884.* (Declarations and expert report and testimony)

*Dyson, Inc. and Dyson technology Limited,v.Sharkninja operating LLC Sharkninja sales company*, Case No. 14-CV-779 in the united states district court for the northern district of Illinois Eastern division (Expert reports and depositions)

*Dahon North America Inc. v. Dahon & Hon Industrial Labs, Ltd.*, Case: 2:11-cv-05835 ODW (JCG), The United States District Court for the Central District of California. (Expert report)

*Wayne Spencer and Mach 5 Leasing, Inc. v. Taco Bell Foundation, Inc., Taco Bell Corp., and Imageworks, Inc.*, Case No. 8:12-CV-00387-SDM-TBM. The United States District Court for the Middle District of Florida, Tampa Division. (Expert report and rebuttal)

*LG Large Residential Washers from Korea and Mexico*, Inv. Nos. 701-TA-488 and 731-TA-1199-1200 (Final) (U.S. Int'l Trade Comm'n)

*CustomInk, LLC v. ooShirts, Inc.*, Civil Action No. 1:12CV576 GBL/JFA. The United States District Court for the Eastern District of Virginia, Alexandria Division. (Expert report)

*HTC v. Apple*, In the United States International Trade Commission, Washington D.C. (Expert report)

*Zenith Products Corp., v. Design Home Solutions, LLC.*, Case: 0:10-cv-61074-ZLOCH/Rosenbaum. The United States District Court Southern District of Florida. (Expert report and deposition)

*Primo Water Corporation, v. Zephyr Fluid Solutions, LLC.*, Civil Action No, 1:10-cv-931, The United States District Court For The Middle District of North Carolina. (Expert report)

*B&R International, Inc. v. Kikkerland Designs, Inc.*, Inv. No. 337-TA-693 States International Trade Commission Washington D.C. (Expert report and deposition)

*Fidelity Information Services, Inc. v. DebtDomain GLMS PTE LTD., DebtDomain (USA) Inc., David Levy, and Seth Rothmanf.* The United States District Court for the Southern District of New York Case No. 09-cv-07589-LAK (Expert report and deposition)

*Microsoft Corporation v. Datel Design and Development, Inc.* In the United States International Trade Commission Washington D.C. (Expert report and deposition)

*Atlas Equipment Co., LLC. v. Weir Slurry Group, Inc. and Weir Minerals Australia, LTD.*, Civil Action No. 07-ev-013358 (W.D. Wash.) (Expert report and deposition)

*Nintendo of America Inc. v. Nyko Technologies, Inc.*, Civil Action No. 06-417-GMS (W.D. Wash.) (Expert report and deposition)

*IPXL Holdings, LLC v. Amazon.com, Inc.*, Civil Action No. CV-04-70 (LMB) (E.D. Va.) (Expert report and deposition)

*Salton, Inc. v. Philips Domestic Appliances and Personal Care B.V.*, Civil Action No. 03- C-5660 (JHL) (N.D. Ill.) (Expert report and deposition)

**EXHIBIT B - Materials Considered**

Complaint

Answer and Counterclaims

Parties' interrogatory responses

Summer Infant's responses to requests for admission

Parties claim construction briefs

Claim construction report and recommendation ("R&R")

Claim construction order adopting R&R

U.S. Patent No. 6,578,209

Prosecution History for U.S. Patent No. 6,578,209

Deposition transcripts and exhibits:

Eric Hauser

John Harding

Anthony Carbone

Mark Sousa

Michael Fusco

Luke Roberts

Paula Lopes

Physical tub samples:

Sure Comfort Deluxe Tub ("TOMY Tub")

Comfy Clean Deluxe tub ("Accused Tub")

Redesigned Comfy Clean Deluxe tub ("Redesign Tub")

Summer Infant H12 tub

Summer Infant H13 tub

Summer Infant website: [www.summerinfant.com](http://www.summerinfant.com)

Summer Infant website for Accused Tub: [www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub](http://www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub).

TOMY website ([us.tomy.com](http://us.tomy.com))

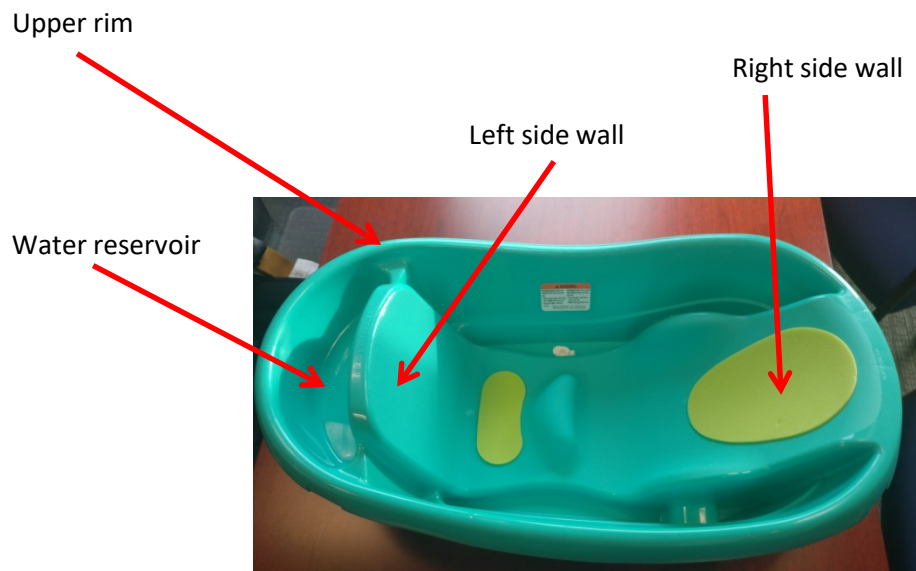
# Exhibit C

## '209 Patent Infringement Analysis for Accused Tub

## Claim 1

**Relevant claim element:** A tub for bathing children, the tub comprising a molded plastic body [*one-piece plastic body formed from a mold*] having an upper rim and defining a bathing basin sized for bathing a young child and having a bottom surface and opposing side walls forming opposite ends of the basin, a first of the opposing side walls extending at a first incline angle with respect to the rim, and a second, opposite one of the opposing side walls extending at a second incline angle with respect to the rim, the first and second inclined side walls forming first and second back rests for children seated in the tub in different orientations ... ..

**Analysis:** Tub shown below is for bathing children of different ages, e.g., infant and toddler, where a younger child faces in one direction, whereas an older child, such as a toddler, faces the opposite direction. The tub body is a one-piece plastic body, which is formed from a mold. The bathing basin is the interior of the tub, not including the water reservoir as shown. The upper rim, bottom surface and opposing side walls are indicated below. The side wall which is shown on the left below is inclined relative to the upper rim. The side wall on the right is also inclined relative to the rim at a different incline than the left side wall. Each of the side walls defines a back rest for a child placed in the tub, depending on the child's orientation.



Bottom surface: generally  
the lower surface

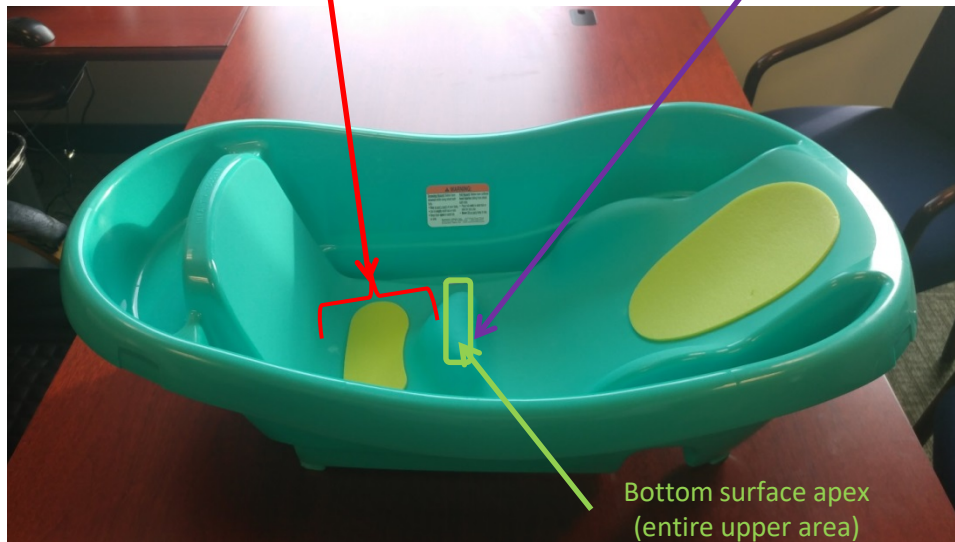
## Claim 1

**Relevant claim limitation:** A tub for bathing children, ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex *[edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces]* spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat ...

**Analysis 1:** As indicated, the bottom surface of the tub has two seating surfaces. The seating surface on the right side as shown is of a steep slope. The seating surface on the left includes a relatively horizontal portion and an upwardly curved portion. The different portions of the left seating surface are sloped differently than the right side seating surface. The right seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The left seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The edge of the right seating surface furthest from its back rest is joined with the edge of the left seating surface furthest from its back rest at an area of a high point of the bottom surface, as shown. The combination of the left back rest and left seating surface forms one inclined seat, and the combination of the right back rest and right seating surface forms a second inclined seat.

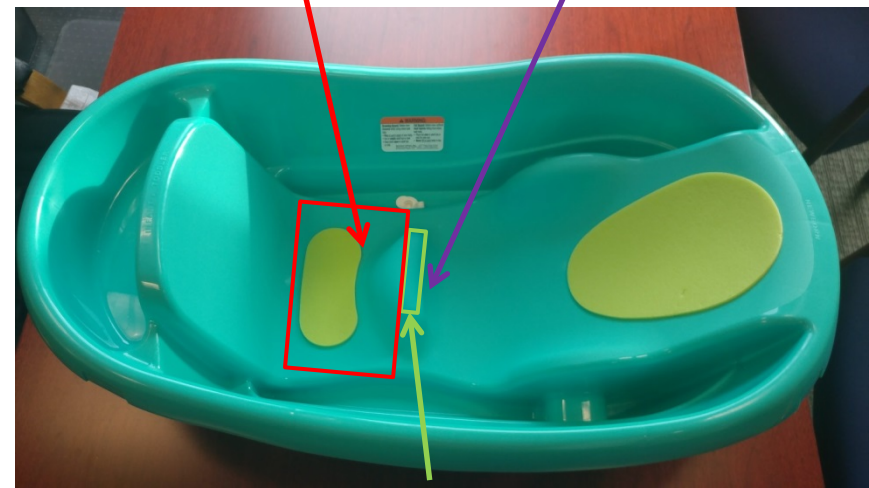
Left seating surface (from  
bottom of seat back to apex)

Right seating surface (steep  
portion below apex)



Left seating surface (from  
bottom of seat back to apex)

Right seating surface (steep  
portion below apex)



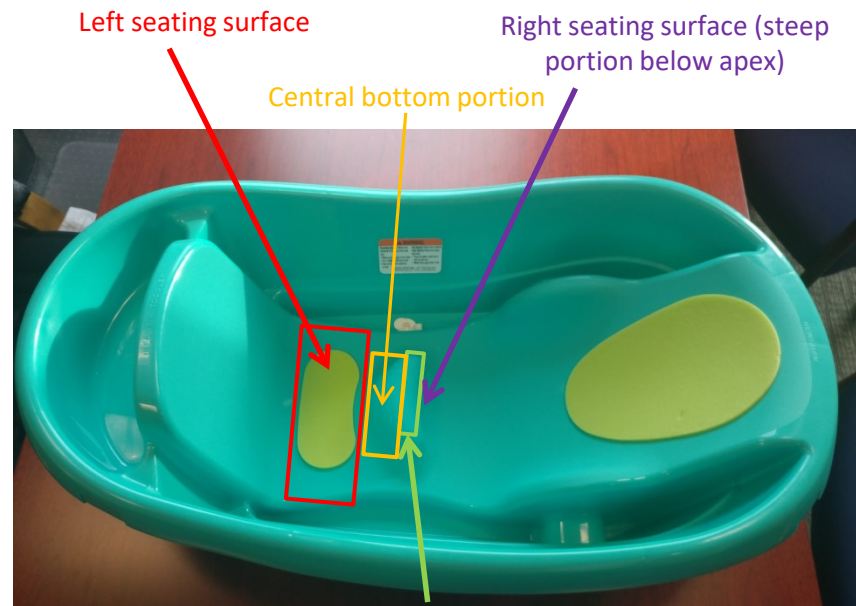
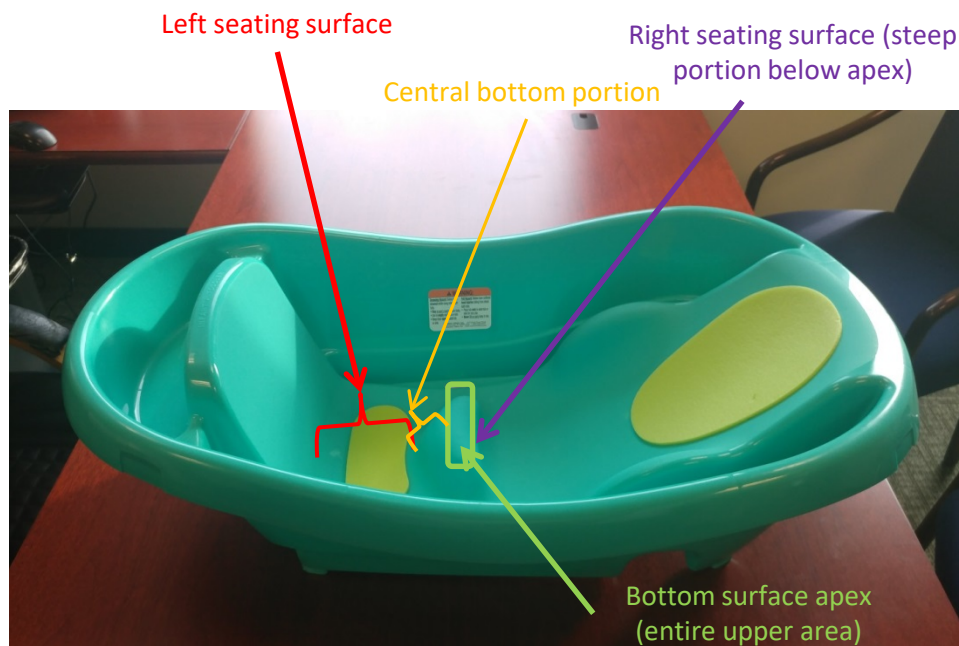
The distal edges of the left and right seating surfaces are joined at an area of a high point of the bottom surface as shown



## Claim 1

**Relevant claim limitation:** A tub for bathing children, ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex [*edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces*] spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat ...

**Analysis 2:** As indicated, the bottom surface of the tub has two seating surfaces. The right seating surface is of a steep slope. The left seating surface is of a different slope than the right side seating surface. The right seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The left seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The edge of the right seating surface furthest from its back rest is joined with the edge of the left seating surface furthest from its back rest at an area of a high point of the bottom surface by a central bottom portion, as shown. The combination of the left back rest and left seating surface forms one inclined seat, and the combination of the right back rest and right seating surface forms a second inclined seat.



The distal edges of the left and right seating surfaces are joined at an area of a high point of the bottom surface by a connecting central bottom portion as shown

## Claim 1

**Relevant claim limitation:** A tub for bathing children, ... wherein the body has a nominal thickness and upper and lower surfaces having matching shape across an overall extent of the tub so as to enable the tub to nest within an identical tub with a nesting space differential of less than about two inches (five centimeters).

**Analysis:** Based on my analysis, and as shown below, the upper and lower surfaces are on the whole of matching shapes. The body of the tub is of a generally uniform thickness, and the upper surface and the lower surface form opposite sides of the body. Because the general shape of the upper surface and the bottom surface match, multiple tubs may be nested in one another. Based on measurements, a single tub measured at its highest point has a height of 9.325 inches, two tubs nested have a measured height at their highest point of 10.9 inches, which is a nesting space differential of 1.575 inches. This nesting space differential is less than about two inches or five centimeters.



## Claims 2 and 3

**(Claim 2)** The tub of claim 1 wherein the cavity includes two side troughs extending along either side of the inclined seats and formed within wales defining resting points positioned to support the tub on a horizontal surface.

**(Claim 3)** The tub of claim 2 wherein the wales form laterally aligned sink divider notches at one end of the cavity, and laterally aligned ledges at the other end of the cavity, the notches sized and positioned to receive an upper edge of a divider of a double sink when the tub is placed over one basin of the double sink with the ledges resting on one outer edge of the sink.

**Analysis:** As indicated, the tub has two side troughs that extend along either side of the inclined seats (discussed above). These troughs are formed within features of the tub that define resting points for supporting the tub on different types of horizontal surfaces. These features are the claimed “wales.” Some of the resting points defined by the wales of the accused tub are found at least by the laterally aligned sink divider notches at one end, and ledges at the other. As shown in the photo from <https://www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub>, and the instruction booklet for the tub, the notches are for resting on the horizontal surface of the divider in a double sink, and the ledges are configured to rest on the horizontal surface of the edge of the sink. Other resting points are indicated with red arrows, which define resting points for supporting the tub on the horizontal bottom of a standard bath tub or floor.

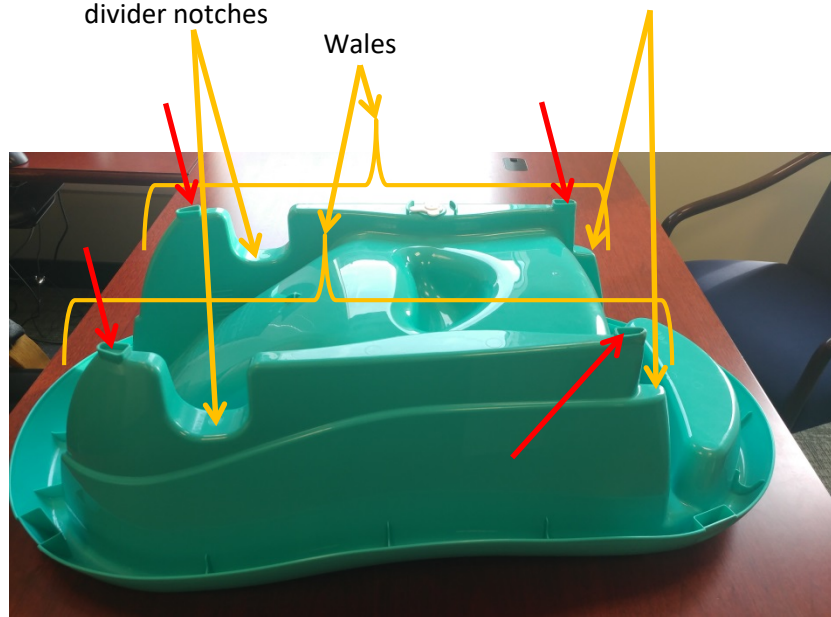
Side troughs



Laterally aligned sink divider notches

Wales

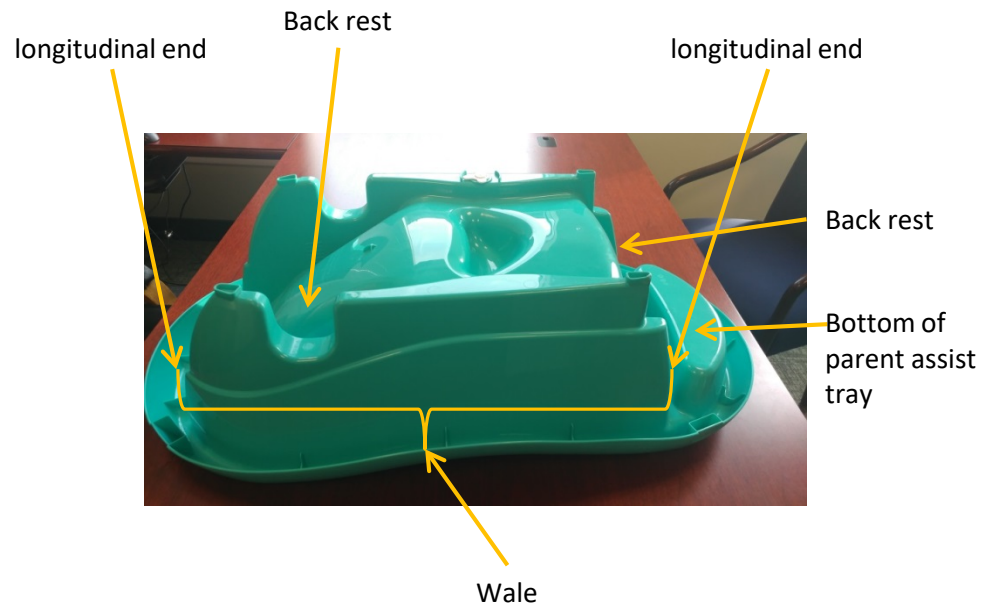
ledges



## Claim 5

**(Claim 5)** The tub of claim 2 wherein the wales each have longitudinal ends disposed behind the back rests and positioned to abut opposite walls of a single sink with the tub rim resting upon an upper edge of the sink and the tub disposed within the sink.

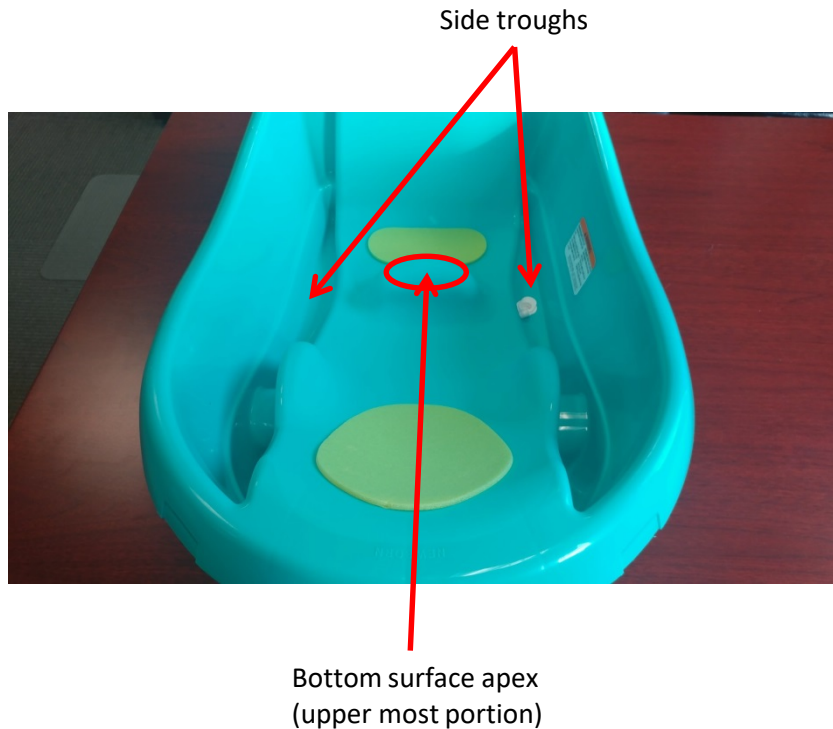
**Analysis:** As shown, the a wale has longitudinal ends, and these ends are located behind the back rests. When placed in an appropriate size single sink, the rim on one side of the tub will rest on the edge of the sink, and the bottom of the parent assist tray, which is defined by the rim, will rest on the opposing sink edge.



## Claim 7

**(Claim 7)** The tub of claim 2 wherein the side troughs extend below and along either side of the bottom surface apex *[the area of a high point of the bottom surface of the body between the seating surfaces]*.

**Analysis:** As indicated, the tub has two side troughs that extend along either side of the inclined seats (discussed above). These troughs are also formed along either side of the area of a high point of the bottom surface of the body between the seating surfaces, as indicated.





## Claim 8

**(Claim 8)** The tub of claim 1 wherein the tub rim defines, behind one of the back rests, a separate water basin.

**Analysis:** As shown below, the tub includes behind the more upright back rest a water basin. I note that this feature is described as a parent assist tray on Summer Infant's website (<https://www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub>), but that it is fully capable or serving as a water basin.

Water basin



## Claim 11

**(Claim 11)** The tub of claim 1 defining a drain hole in a bottom of the basin, and further comprising a removable drain plug.

Analysis: As shown, the bottom of the tub defines a drain hole, which is in one of the troughs, and this hole is covered by a removable drain plug.

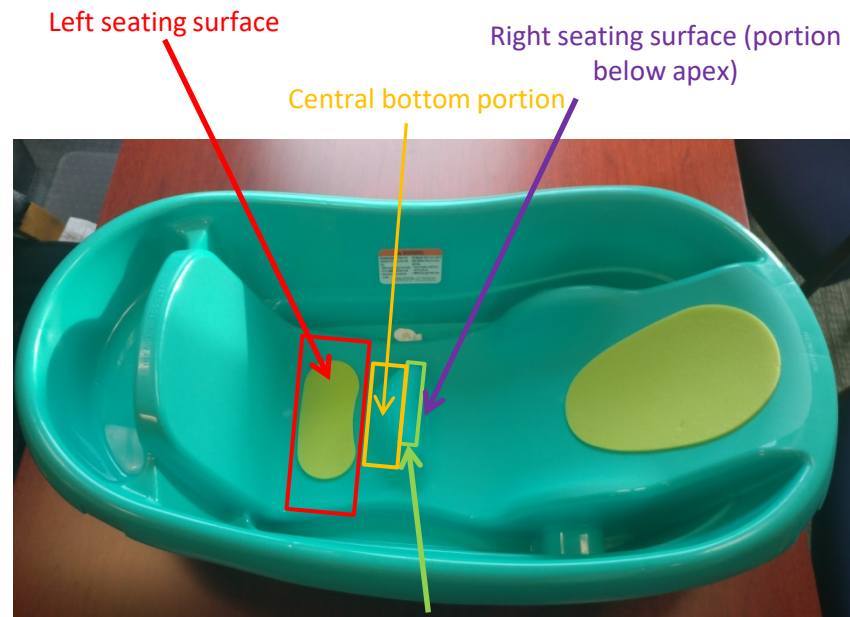
Drain hole with removable drain plug



## Claim 17

**(Claim 17)** The tub of claim 15 wherein the seating surface associated with the first inclined wall is disposed generally horizontally with the tub resting upright on a horizontal surface.

**Analysis:** See Analysis 2 from claim 1. With the connecting central bottom surface portion, the left seating surface shown below is generally horizontal when the tub is resting on a horizontal surface.



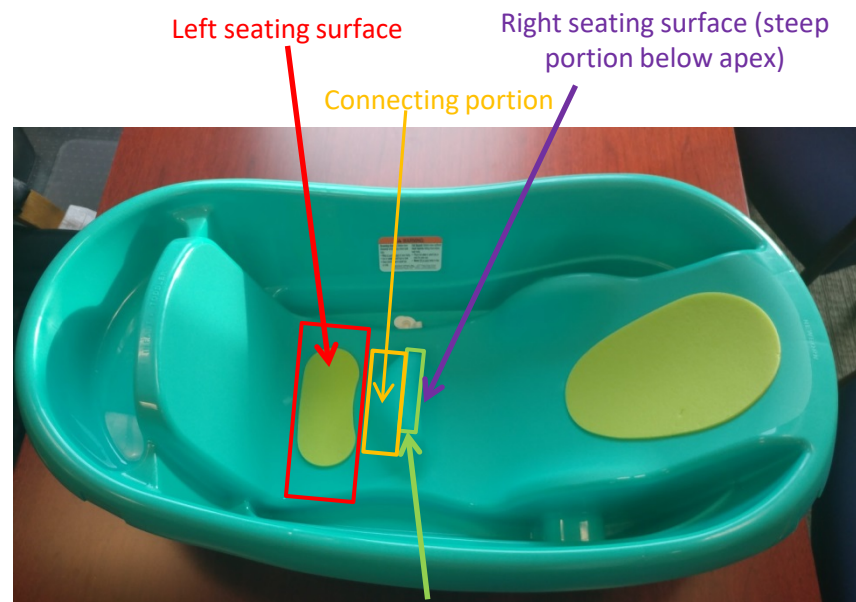
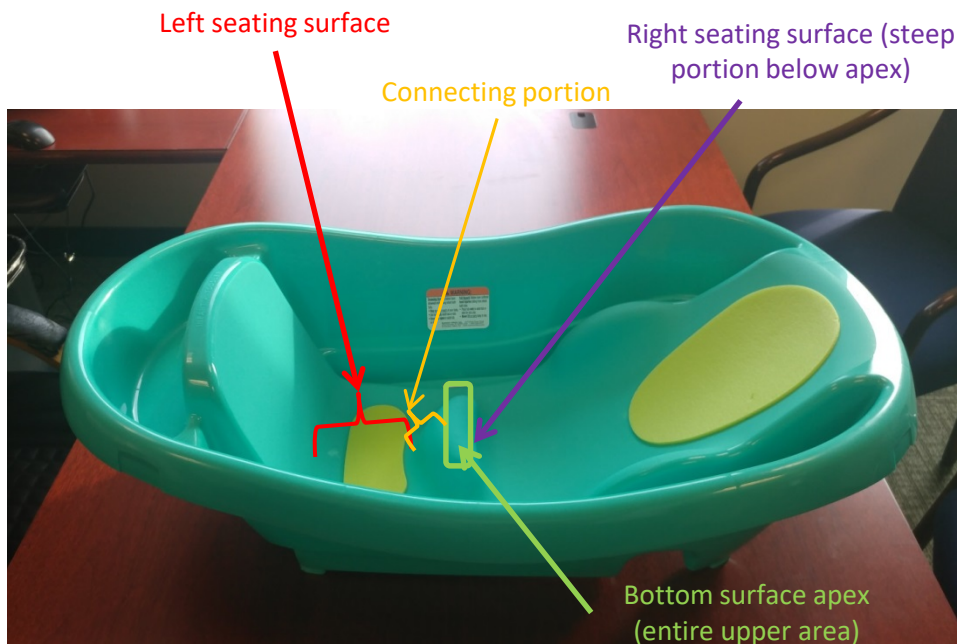
The distal edges of the left and right seating surfaces are joined at bottom surface high point by a connecting central bottom portion as shown



## Claim 18

**(Claim 18)** The tub of claim 1 wherein the seating surfaces are joined by a central bottom surface portion that rises from the distal edge of one of the seating surfaces to the distal edge of the other of the seating surfaces.

**Analysis:** See Analysis 2 from claim 1. In addition, as shown, the central bottom surface portion rises from the distal end of the left seating surface to the distal edge of the right seating surface at the apex.



The distal edges of the left and right seating surfaces are joined at bottom surface high point by a connecting central bottom portion as shown

## Claim 21

**(Claim 21)** The tub of claim 1 nestable within an identical tub with a nesting space differential of less than about 1.75 inches (4.5 centimeters).

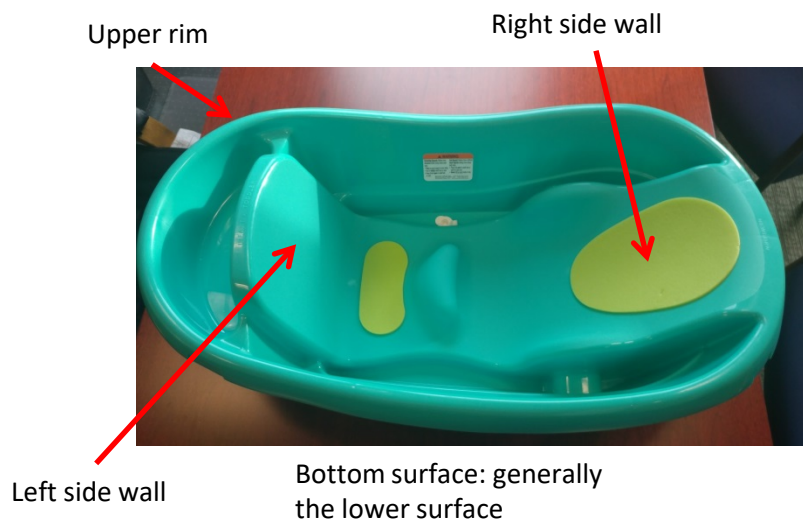
**Analysis:** See claim 1 claim charts. The nesting space differential of 1.575 inches. is less than about 1.75 inches or 4.5 centimeters.



## Claim 30

**Relevant claim limitation:** A tub for bathing children, the tub comprising a molded plastic body having an upper rim and defining a bathing basin sized for bathing a young child and having a bottom surface and opposing side walls forming opposite ends of the basin, wherein the body has a nominal thickness and upper and lower surfaces having matching shape across an overall extent of the tub so as to enable the tub to nest within an identical tub with a nesting space differential of less than about two inches (five centimeters);

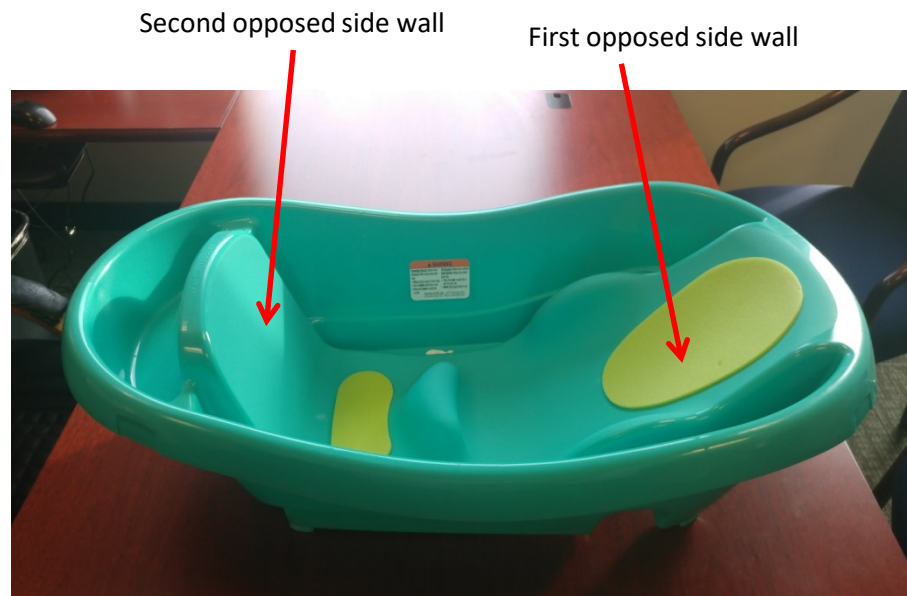
**Analysis:** Tub shown below is for bathing children of different ages, e.g., infant and toddler. The tub body is a one-piece plastic body, which is formed from a mold. The bathing basin is the interior of the tub, not including the water reservoir. The claimed upper rim, bottom surface and opposing side wall are indicated. Based on my analysis, and as shown below, the upper and lower surfaces are of matching overall shapes. The body of the tub is of a generally uniform thickness, and the upper surface and the lower surface form opposite sides of the body. Because the general shape of the upper surface and the bottom surface match, multiple tubs may be nested in one another. Based on measurements, a single tub measured at its highest point has a height of 9.325 inches, two tubs nested have a measured height at their highest point of 10.9 inches, which is a differential of 1.575 inches. This nesting space differential is less than about two inches or five centimeters.



## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... a first of the opposing side walls extending at a first incline angle with respect to the rim, and a second, opposite one of the opposing side walls extending at a second incline angle with respect to the rim, the first and second inclined side walls forming first and second back rests for children seated in the tub in different orientations.

**Analysis:** The side wall on the left is inclined at a first angle relative to the upper rim. The side wall on the right is also inclined relative to the rim. The inclines of the left side wall and the right side wall are different. Each of the side walls defines back rests for a child placed in the tub.





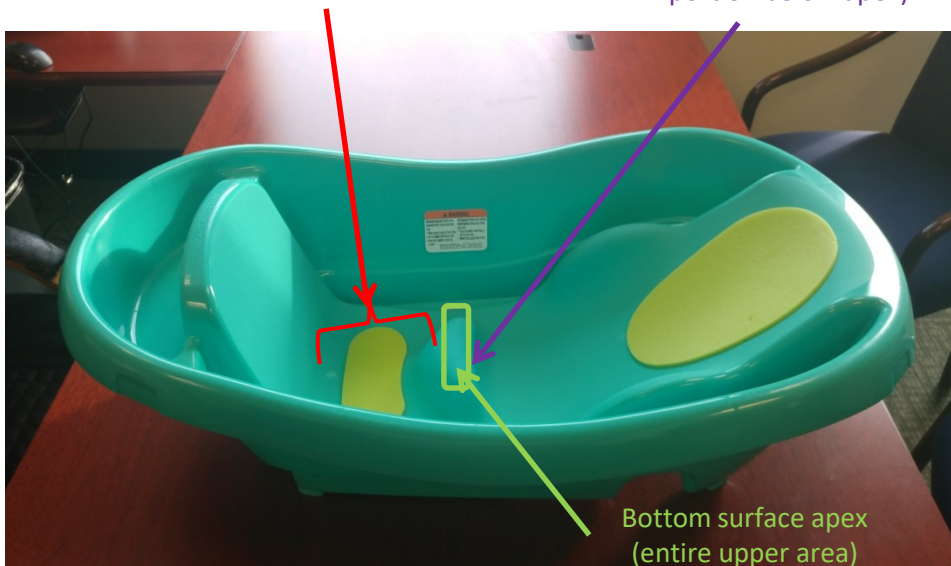
## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex *[edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces]* spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat...

**Analysis 1:** As indicated, the bottom surface of the tub has two seating surfaces. The seating surface on the right side as shown is of a steep slope. The seating surface on the left includes a relatively horizontal portion and an upwardly curved portion. The different portions of the left seating surface are sloped differently than the right side seating surface. The right seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The left seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The edge of the right seating surface furthest from its back rest is joined with the edge of the left seating surface furthest from its back rest at an area of a high point of the bottom surface, as shown. The combination of the left back rest and left seating surface forms one inclined seat, and the combination of the right back rest and right seating surface forms a second inclined seat.

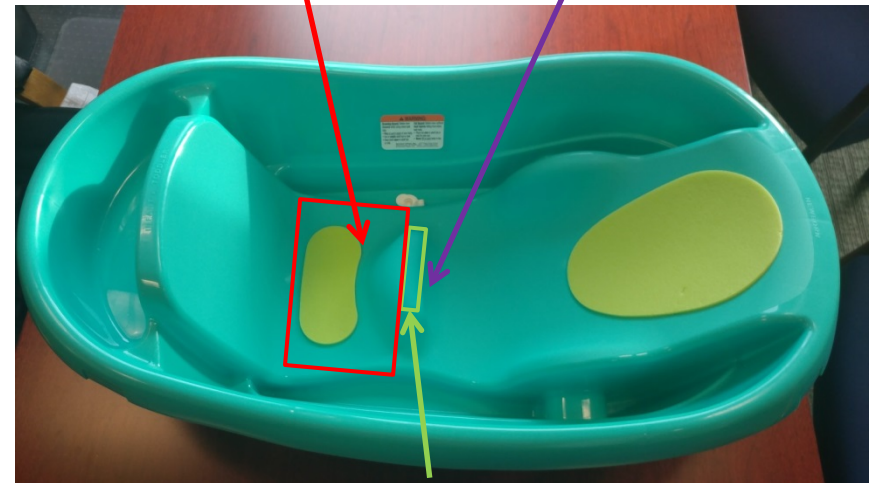
Left seating surface (from  
bottom of seat back to apex)

Right seating surface (steep  
portion below apex)



Left seating surface (from  
bottom of seat back to apex)

Right seating surface (steep  
portion below apex)

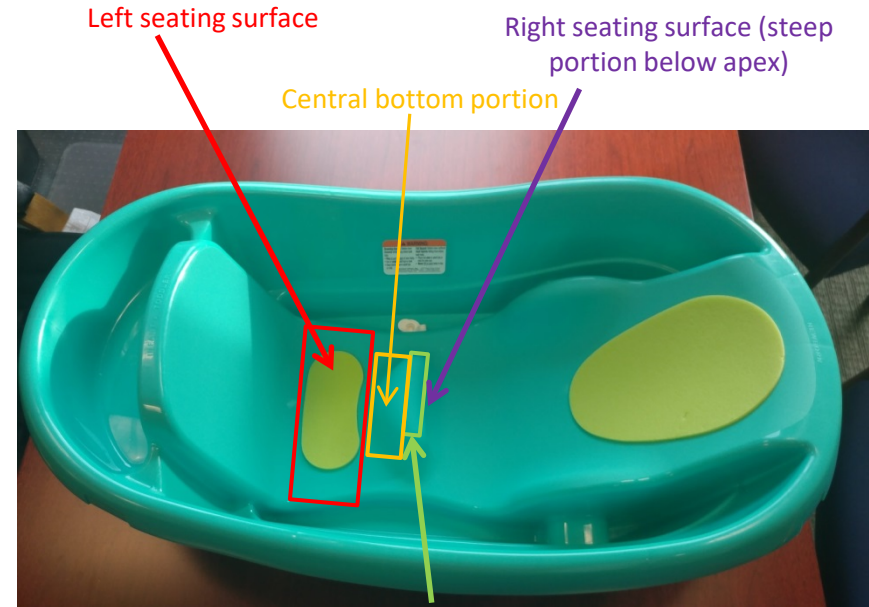
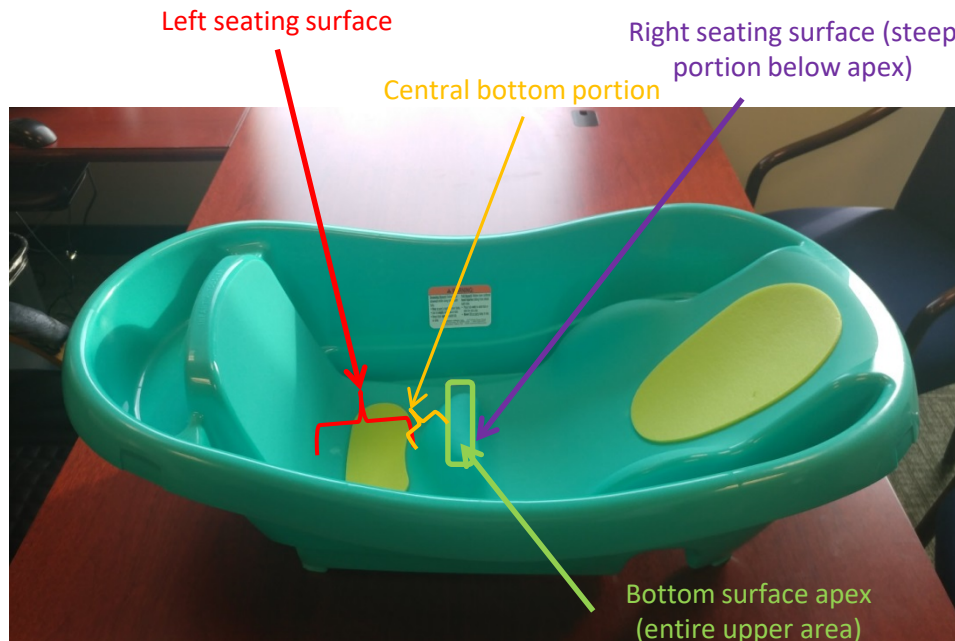


The distal edges of the left and right seating surfaces are joined at an area of a high point of the bottom surface as shown

## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex [*edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces*] spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat...

**Analysis 2:** As indicated, the bottom surface of the tub has two seating surfaces. The right seating surface is of a steep slope. The left seating surface is of a different slope than the right side seating surface. The right seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The left seating surface extends away from its back rest (previous slide) towards the central part of the tub bottom surface. The edge of the right seating surface furthest from its back rest is joined with the edge of the left seating surface furthest from its back rest at an area of a high point of the bottom surface by a connecting central bottom portion, as shown. The combination of the left back rest and left seating surface forms one inclined seat, and the combination of the right back rest and right seating surface forms a second inclined seat.



The distal edges of the left and right seating surfaces are joined at an area of a high point of the bottom surface by a connecting central bottom portion as shown

## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... wherein the cavity includes two side troughs extending along either side of the inclined seats and formed within wales defining resting points positioned to support the tub on a horizontal surface, the wales forming laterally aligned sink divider notches at one end of the cavity, and laterally aligned ledges at the other end of the cavity, the notches sized and positioned to receive an upper edge of a divider of a double sink when the tub is placed over one basin of the double sink with the ledges resting on one outer edge of the sink.

**Analysis:** As indicated, the tub has two side troughs that extend along either side of the inclined seats (discussed above). These troughs are formed within features of the tub that define resting points for supporting the tub on different types of horizontal surfaces. The features are the claimed "wales." Some of the resting points defined by the wales of the accused tub are found at least by the laterally aligned sink divider notches at one end, and ledges at the other. As shown in the photo from <https://www.summerinfant.com/tubs/comfy-clean-deluxe-newborn-to-toddler-tub>, and the instruction booklet for the tub, the notches are for resting on the horizontal surface of the divider in a double sink, and the ledges are configured to rest on the horizontal surface of the edge of the sink. Other resting points are indicated with red arrows, which define resting points for supporting the tub on the horizontal bottom of a standard bath tub.

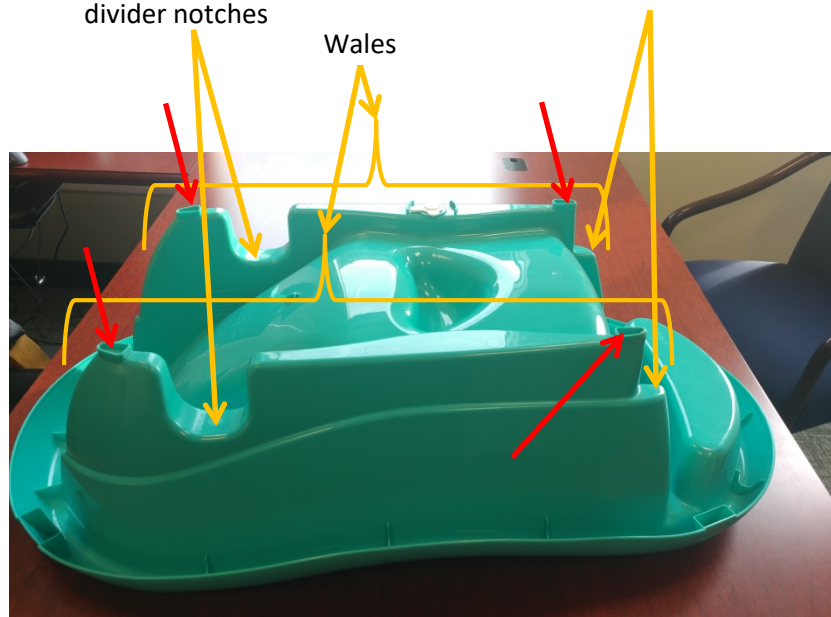
Side troughs



Laterally aligned sink divider notches

Wales

ledges



# Exhibit D

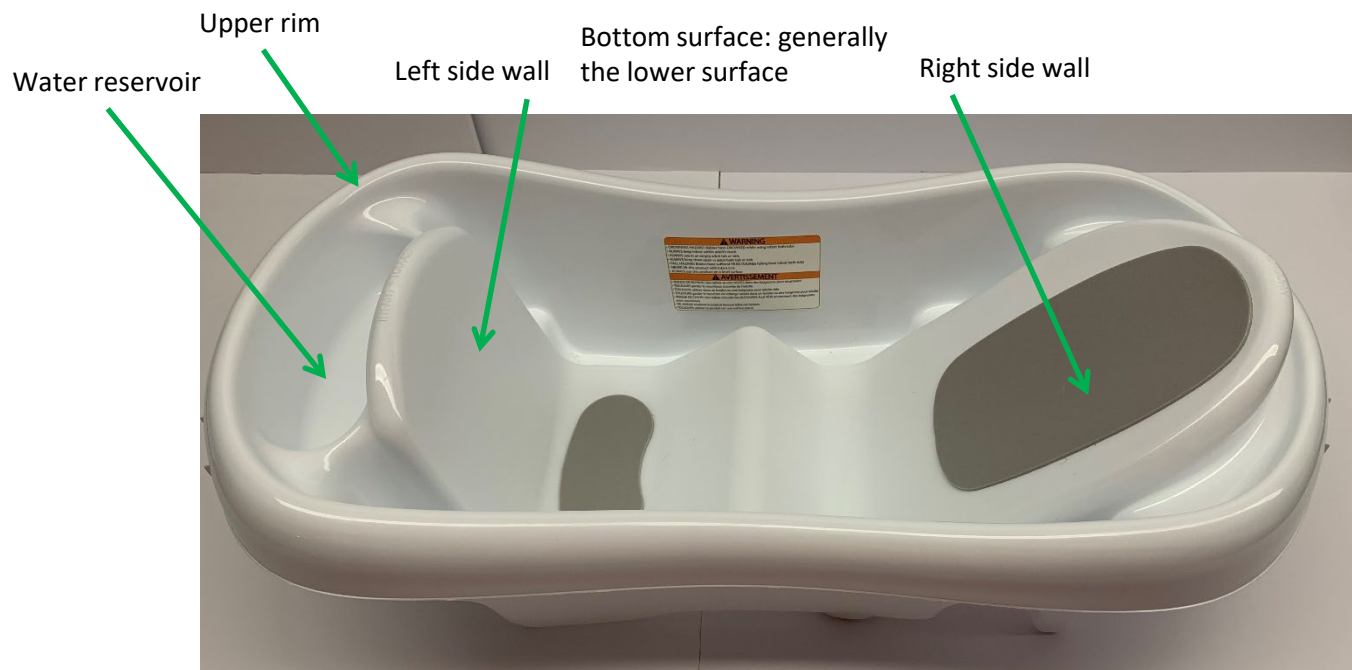
## Analysis of coverage by '209 Patent Over TOMY Tub



## Claim 1

**Relevant claim element:** A tub for bathing children, the tub comprising ... a molded plastic body [*one-piece plastic body formed from a mold*] having an upper rim and defining a bathing basin sized for bathing a young child and having a bottom surface and opposing side walls forming opposite ends of the basin, a first of the opposing side walls extending at a first incline angle with respect to the rim, and a second, opposite one of the opposing side walls extending at a second incline angle with respect to the rim, the first and second inclined side walls forming first and second back rests for children seated in the tub in different orientations ... ..

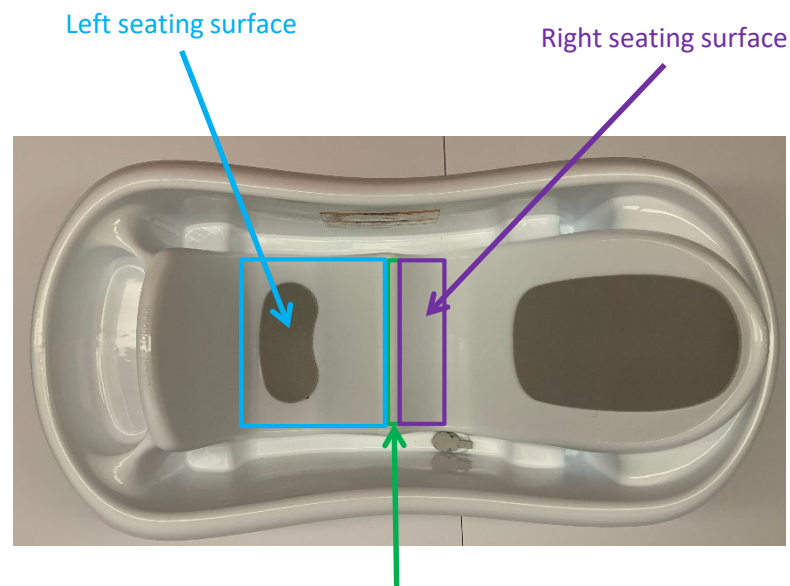
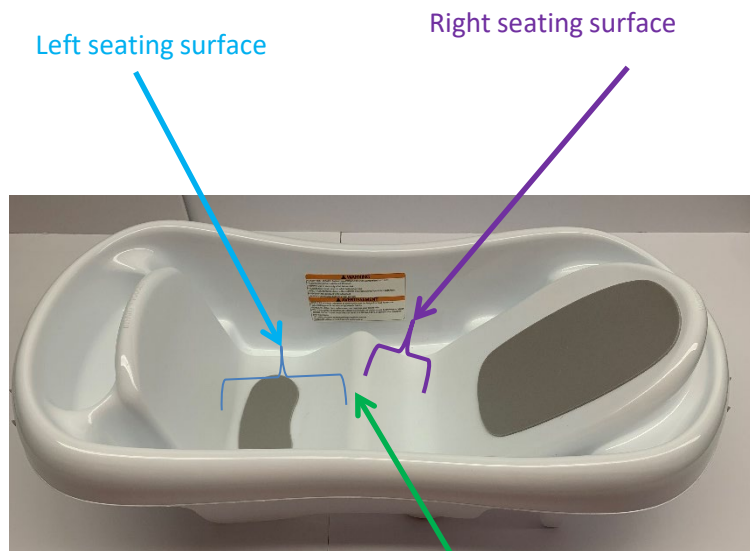
**Analysis:** Tub shown below is for bathing children at different stages of development, e.g., infant and toddler. The tub body is a one-piece plastic body, which is formed from a mold. The bathing basin is the interior of the tub, not including the water reservoir on the right hand side as shown. The claimed upper rim, bottom surface and opposing side walls are indicated. The side wall on the left is inclined at a first angle relative to the upper rim. The side wall on the right is inclined at a different angle relative to the rim than the side wall on the left. Each of the side walls defines back rests for a child placed in the tub.



## Claim 1

**Relevant claim limitation:** A tub for bathing children, the tub comprising ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex [*edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces*] spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat ...

**Analysis 1:** The bottom surface of the tub has two seating surfaces. The seating surface on the right side is of a first angle relative to horizontal. The seating surface on the left includes sections of two different inclinations, one fairly horizontal, and the other steeper, and each of which are different from the seating surface on the right. The left and right seating surfaces extend from their respective back rests towards the central part of the tub bottom surface. The distal edge of the right seating surface, which is the edge furthest from the bottom of the seat back, is joined to the distal edge of the left seating surface, which is the edge furthest from the bottom of the seat back as shown. The distal edges of the seating surfaces are joined to one another at an area of a high point as shown. The combination of the left back rest and left seating surface forms one inclined seat, and the combination of the right back rest and right seating surface forms a second inclined seat.

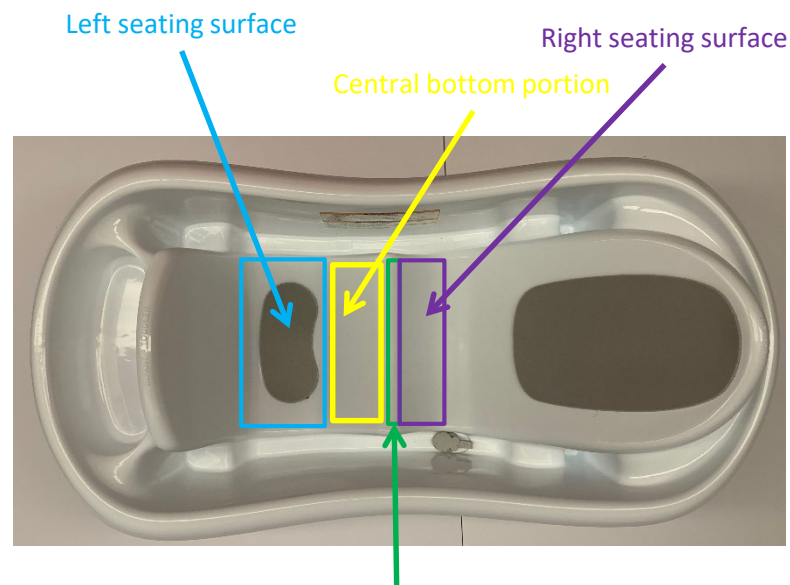
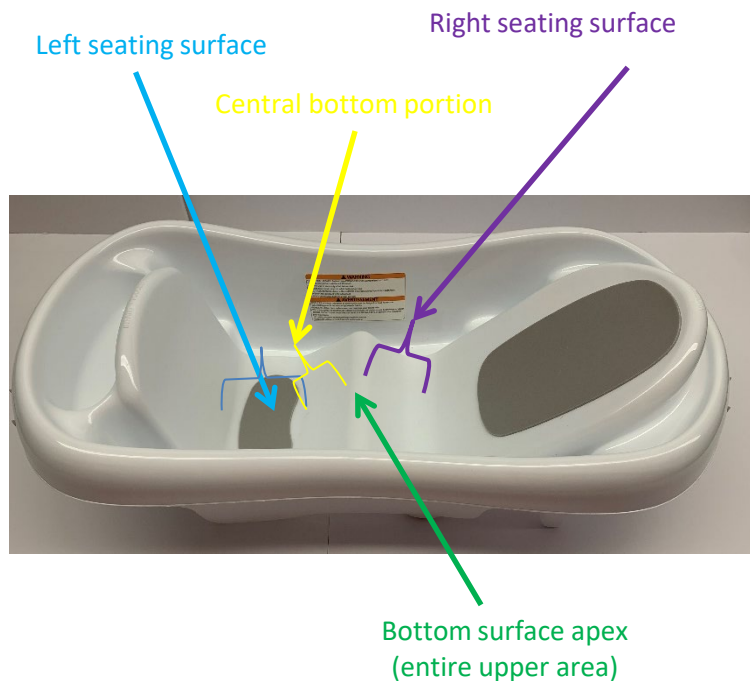


The distal edges of the left and right seating surfaces are joined at an area of high point of the bottom surface as shown by the connecting central bottom portion

## Claim 1

**Relevant claim limitation:** A tub for bathing children, the tub comprising ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex [*edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces*] spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat ...

**Analysis 2:** The bottom surface of the tub has two seating surfaces. The seating surface on the left side is of first angle relative to horizontal. The seating surface on the right is a different angle than the left seating surface. The left and right seating surfaces extend from their respective backrests towards the central part of the tub bottom surface. The distal edge of the left seating surface, which is the edge furthest from the bottom of the seat back, is joined to the distal edge of the right seating surface, which is the edge furthest from the bottom of the seat back as shown. The distal edges of the seating surfaces are joined to one another at an area of a high point as shown by a connecting central bottom portion. The combination of the left back rest and left seating surface forms one inclines seat, and the combination of the right back rest and right seating surface forms a second inclined seat.



## Claim 1

**Relevant claim limitation:** A tub for bathing children, ... wherein the body has a nominal thickness and upper and lower surfaces having matching shape across an overall extent of the tub so as to enable the tub to nest within an identical tub with a nesting space differential of less than about two inches (five centimeters).

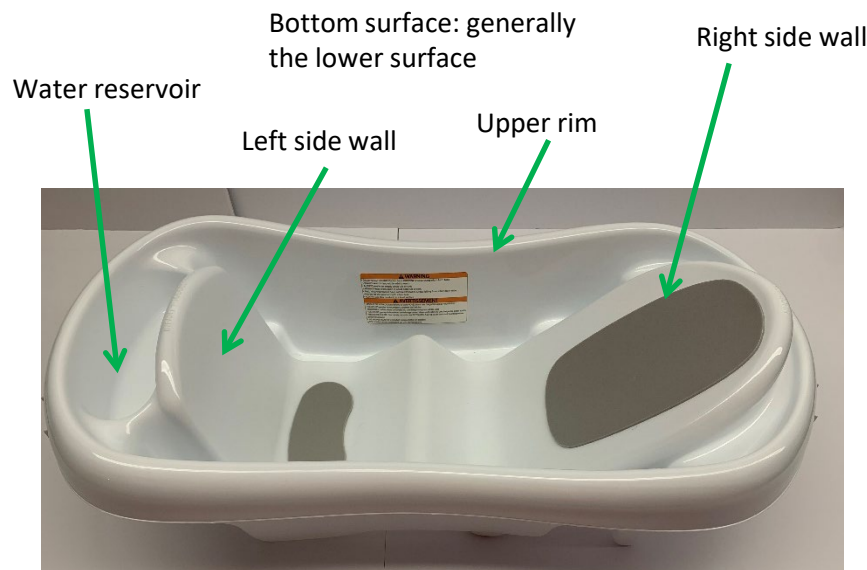
**Analysis:** Based on my analysis, and as shown below, the upper and lower surfaces are of matching overall shapes. The body of the tub is of a generally uniform thickness, and the upper surface and the lower surface form opposite sides of the body. Because the shape of the upper surface and the bottom surface generally match, multiple tubs may be nested in one another, as shown. Based on measurements, a single tub is 8 inches tall, and two tubs when nested are 9.1 inches tall, which is a differential of 1.1 inches, i.e., less than about two inches or five centimeters.



## Claim 30

**Relevant claim limitation:** A tub for bathing children, the tub comprising a molded plastic body *[one-piece plastic body formed from a mold]* having an upper rim and defining a bathing basin sized for bathing a young child and having a bottom surface and opposing side walls forming opposite ends of the basin, wherein the body has a nominal thickness and upper and lower surfaces having matching shape across an overall extent of the tub so as to enable the tub to nest within an identical tub with a nesting space differential of less than about two inches (five centimeters);

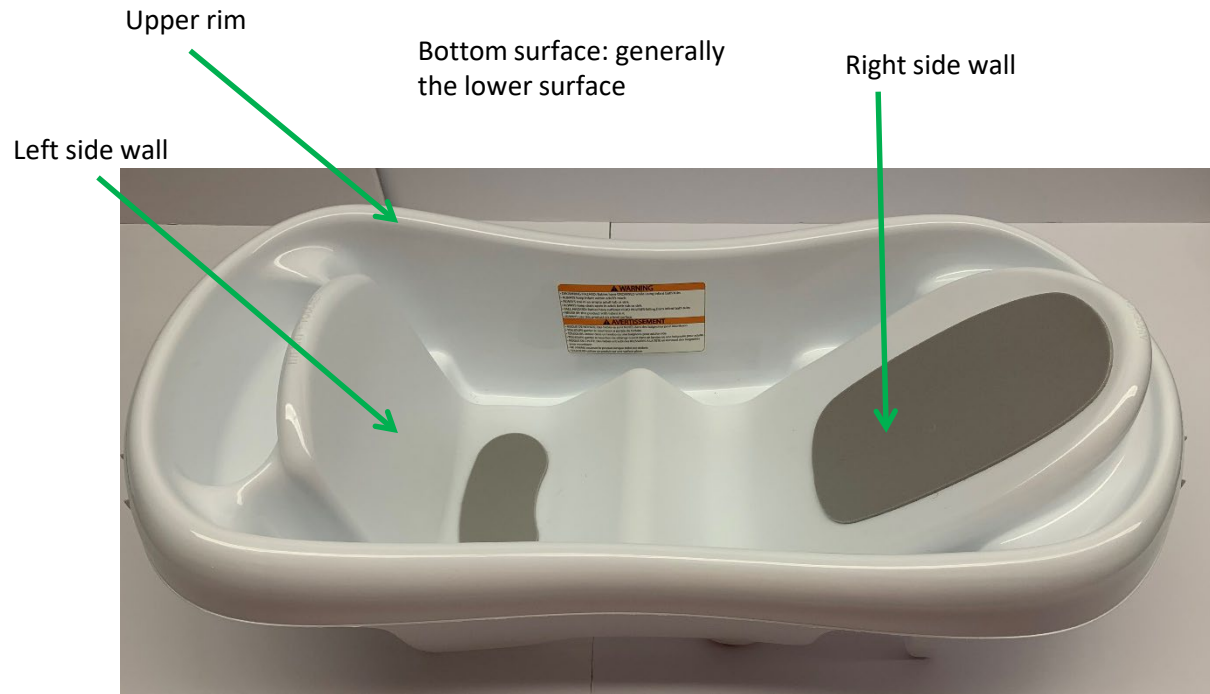
**Analysis:** Tub shown below is for bathing children at different stages of development, e.g., infant and toddler. The tub body is a one-piece plastic body, which is formed from a mold. The bathing basin is the interior of the tub, not including the water reservoir on as shown. The claimed upper rim, bottom surface and opposing side walls are indicated. Based on my analysis, and as shown below, the upper and lower surfaces are of matching overall shapes. The body of the tub is of a generally uniform thickness, and the upper surface and the lower surface form opposite sides of the body. Because the shape of the upper surface and the bottom surface match, multiple tubs may be nested in one another, as shown. Based on measurements, a single tub is 8 inches tall, and two tubs when nested are 9.1 inches tall, which is a nesting space differential of 1.1 inches, e.g., less than about 2 inches or 5 centimeters.



## Claim 30

**Relevant claim limitation:** A tub for bathing children, the tub comprising ... a first of the opposing side walls extending at a first incline angle with respect to the rim, and a second, opposite one of the opposing side walls extending at a second incline angle with respect to the rim, the first and second inclined side walls forming first and second back rests for children seated in the tub in different orientations...

**Analysis:** The side wall on the left is inclined at a first angle relative to the upper rim. The side wall on the right is inclined at a second angle relative to the rim that is different from the side wall on the left. Each of the side walls defines back rests for a child placed in the tub.

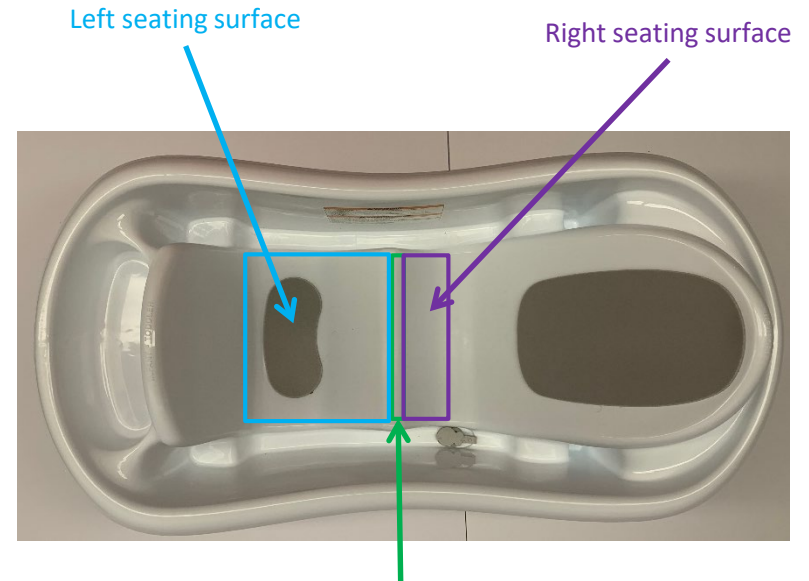
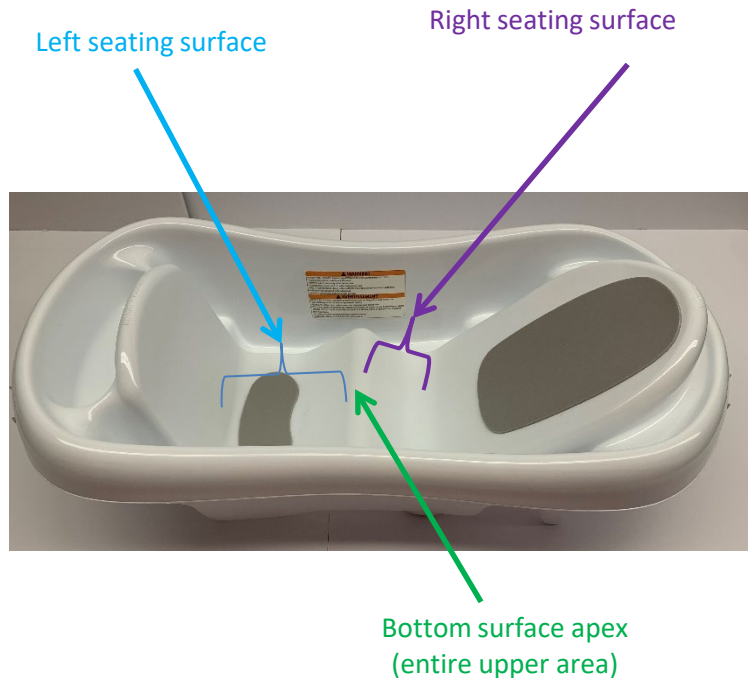




## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex [*edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces*] spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat ...

**Analysis 1:** The bottom surface of the tub has two seating surfaces. The seating surface on the left side is of a first angle relative to horizontal. The seating surface on the right includes sections of two different inclinations, one fairly horizontal, and the other steeper, and each of which are different from the seating surface on the left. The left and right seating surfaces extend from their respective back rests towards the central part of the tub bottom surface. The distal edge of the left seating surface, which is the edge furthest from the bottom of the seat back, is joined to the distal edge of the right seating surface, which is the edge furthest from the bottom of the seat back as shown. The distal edges of the seating surfaces are joined to one another at an area of a high point as shown. The combination of the left back rest and left seating surface forms one inclined seat, and the combination of the right back rest and right seating surface forms a second inclined seat.

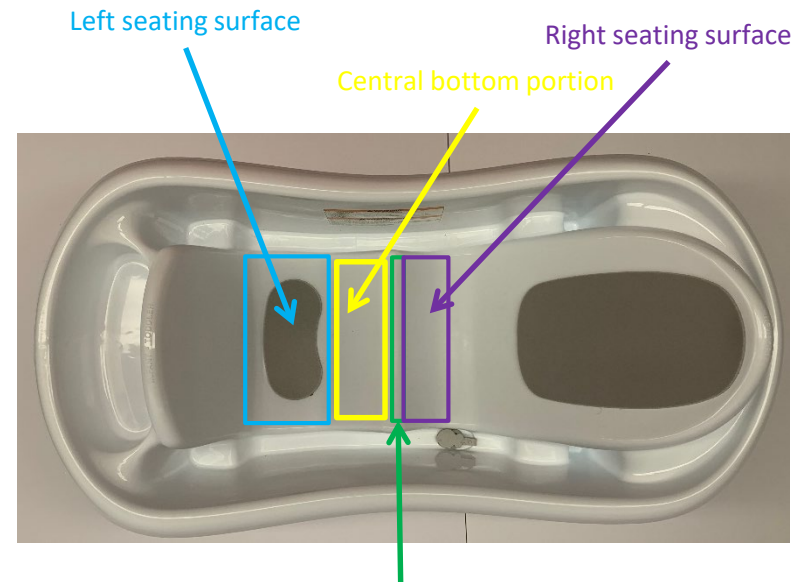
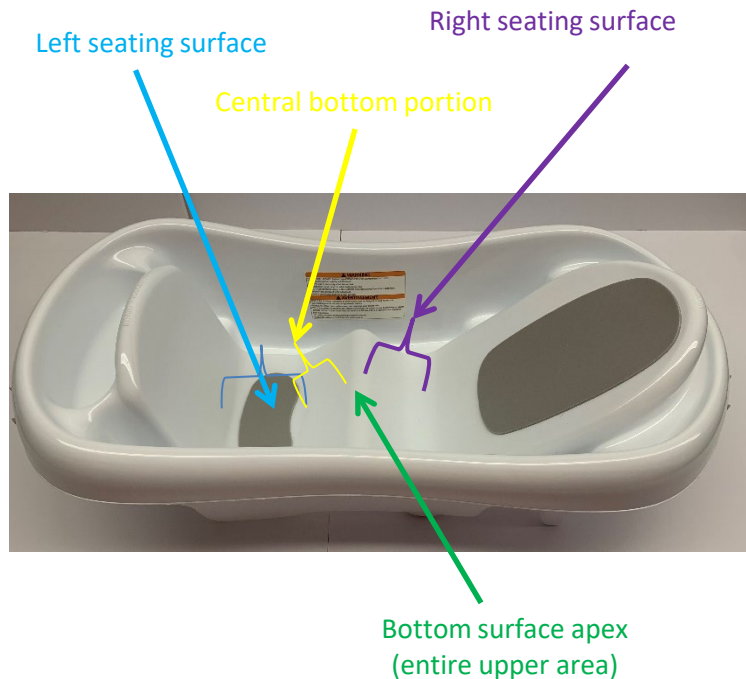


The distal edges of the left and right seating surfaces are joined at an area of high point of the bottom surface as shown by the connecting central bottom portion

## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... the bottom surface having two seating surfaces disposed at differing inclinations and extending from respective back rests to distal edges joined at a bottom surface apex *[edges of the seating surfaces situated farthest away from their respective back rests joined to each other at the area of a high point of the bottom surface of the body between the seating surfaces]* spaced from either end of the basin, each seating surface forming, together with a respective one of the back rests, an inclined seat ...

**Analysis 2:** The bottom surface of the tub has two seating surfaces. The seating surface on the left side is of first angle relative to horizontal. The seating surface on the right is a different angle than the left seating surface. The left and right seating surfaces extend from their respective backrests towards the central part of the tub bottom surface. The distal edge of the left seating surface, which is the edge furthest from the bottom of the seat back, is joined to the distal edge of the right seating surface, which is the edge furthest from the bottom of the seat back as shown. The distal edges of the seating surfaces are joined to one another at an area of a high point as shown by a connecting central bottom portion. The combination of the left back rest and left seating surface forms one inclines seat, and the combination of the right back rest and right seating surface forms a second inclined seat.



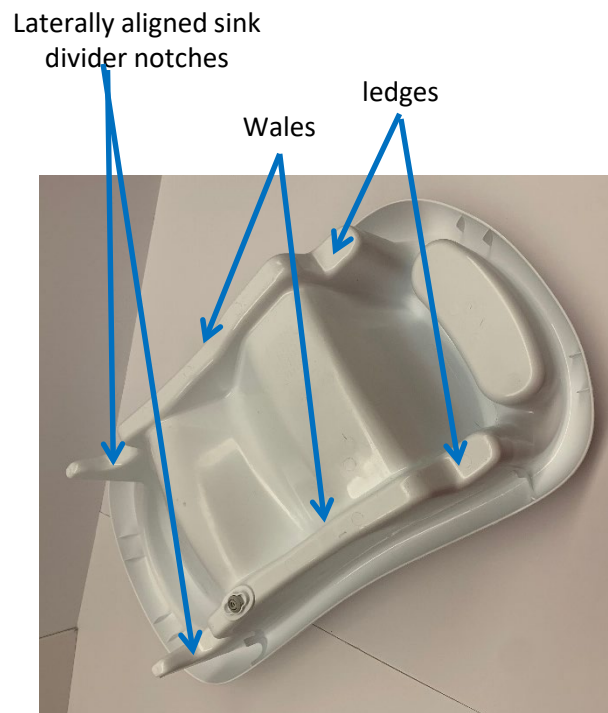
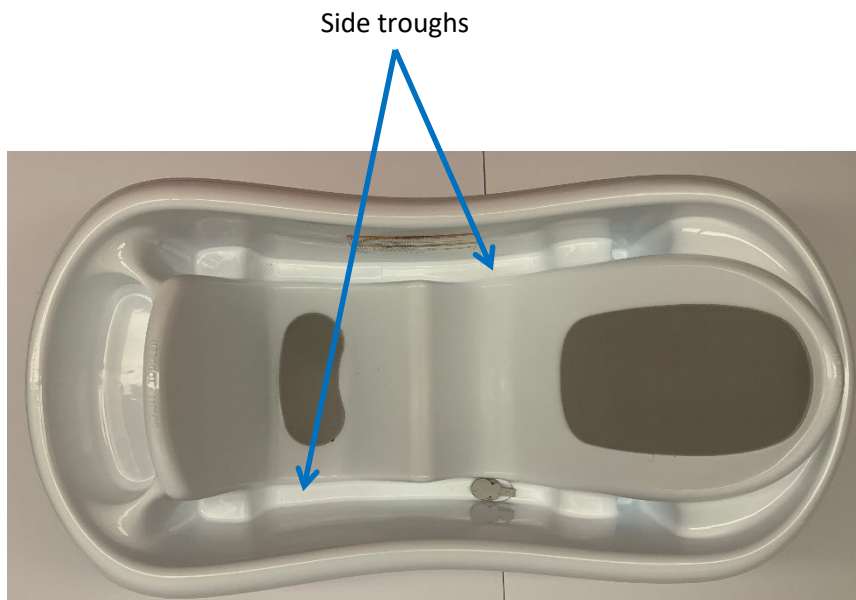
The distal edges of the left and right seating surfaces are joined at an area of high point of the bottom surface as shown by the connecting central bottom portion



## Claim 30

**Relevant claim limitation:** A tub for bathing children, ... wherein the cavity includes two side troughs extending along either side of the inclined seats and formed within wales defining resting points positioned to support the tub on a horizontal surface, the wales forming laterally aligned sink divider notches at one end of the cavity, and laterally aligned ledges at the other end of the cavity, the notches sized and positioned to receive an upper edge of a divider of a double sink when the tub is placed over one basin of the double sink with the ledges resting on one outer edge of the sink.

**Analysis:** As indicated, the tub has two side troughs that extend along either side of the inclined seats (discussed above). These troughs are formed within a feature of the tub that define resting points for supporting the tub on different types of horizontal surfaces. These features are the claimed wales. In this claim, the resting points are explained as including at least laterally aligned sink divider notches at one end, and ledges at the other. The notches are for resting the tub on the horizontal portion of the divider in a double sink, and the ledges are configured to rest on the horizontal portion of the edge of the sink.



**EXHIBIT E**

	Accused Tub	Redesign Tub	H12	H13
1 Tub	9.325"	9.325"	9.125"	9.87"
2 Tubs stacked	10.9"	11.575"	11.25"	11.25"
Diff. 1-2 tubs	1.575"	2.25"	2.125"	2.5"
3 Tubs*	12.475"	13.925"	13.325"	13.75"

\*Note: I was provided with 2 of each tubs. It is my understanding that this is because that is all that was provided by Summer Infant to TOMY's counsel. In order to determine the height of 3 tubs, I added the differential between 1 and 2 tubs to the stacked height of 2 tubs.